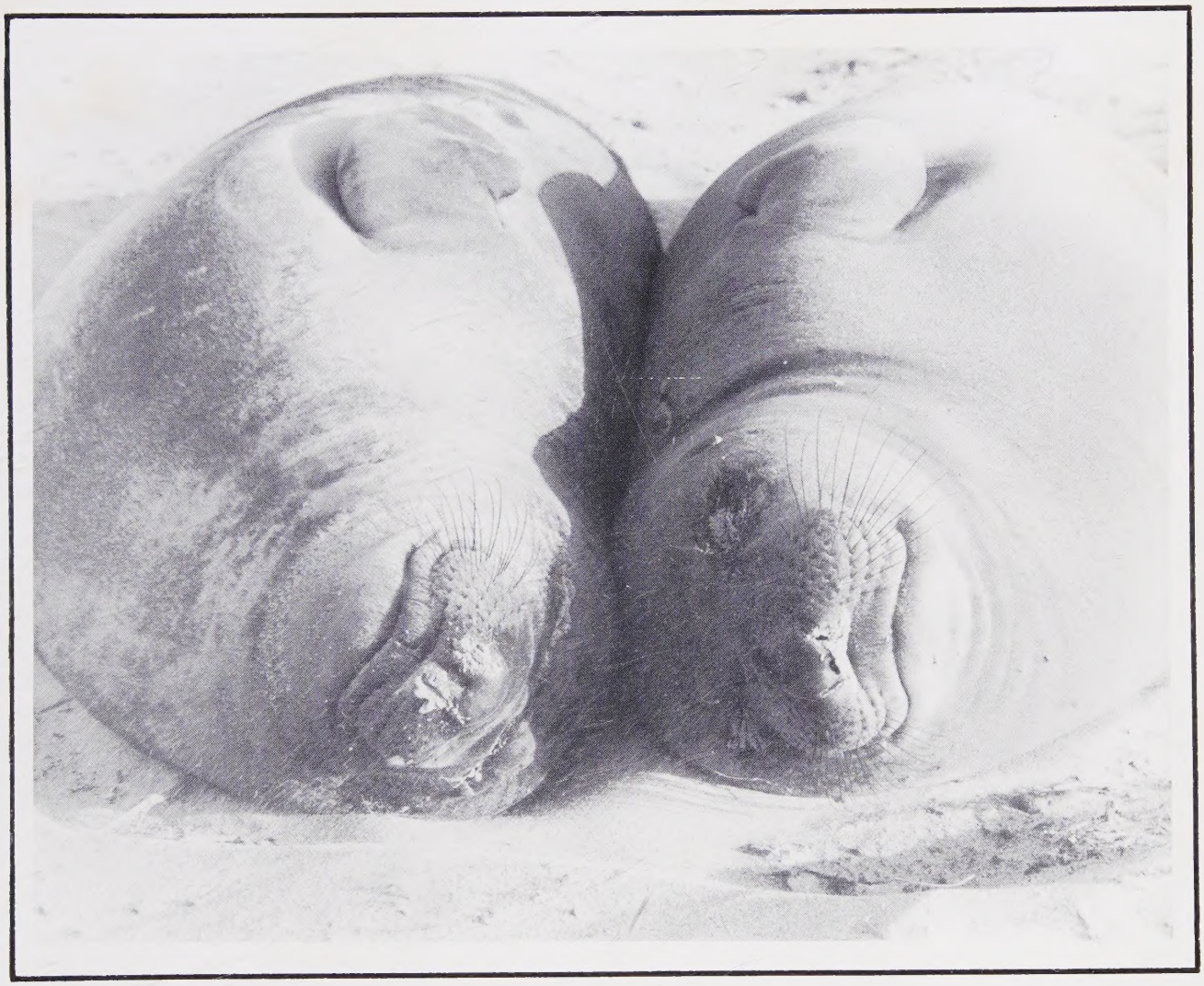
1985/86

Annual Report
1985/86

Library
NOAA, National Marine Fisheries Service
SWFC Honolulu Laboratory F/SWC2
2570 Dole Street
Honolulu, HI 96822-2396

Marine Mammal Protection Act of 1972



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service

June 1986

Cover: Sleeping northern elephant seals, San Clemente, Calif. Photo by Chuck Oliver, Southwest Fisheries Center, National Marine Fisheries Service

Back Cover: Feeding humpback whales lunge through schools of sand lance on Stellwagen Bank off Gloucester, Mass. Photo by Mason Weinrich, Cetacean Research Unit, Gloucester Fishermen's Museum

Annual Report

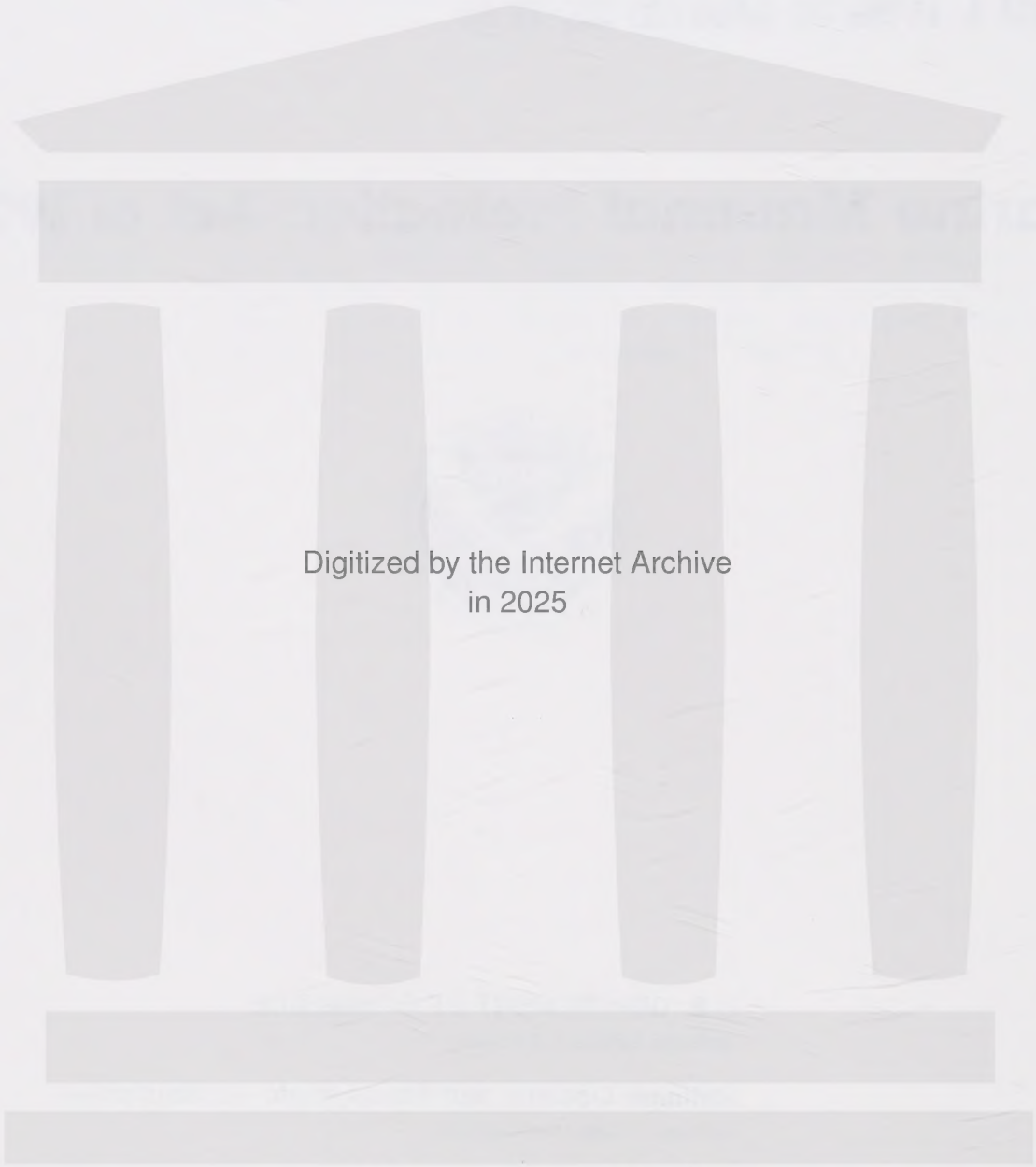
April 1, 1985 to March 31, 1986

Marine Mammal Protection Act of 1972

U.S. DEPARTMENT OF COMMERCE
Malcolm Baldrige, Secretary

National Oceanic and Atmospheric Administration
Anthony J. Calio, Administrator

National Marine Fisheries Service
William G. Gordon, Assistant Administrator



Digitized by the Internet Archive
in 2025

https://archive.org/details/annual-report-marine-mammal-protection-act-1972_1985-1986

THE SECRETARY OF COMMERCE
Washington, D.C. 20230

President of the Senate
Speaker of the House of Representatives

Sirs:

I am pleased to submit the Annual Report of the Department of Commerce regarding the administration of the Marine Mammal Protection Act of 1972 for the period April 1, 1985 through March 31, 1986, as required by Section 103(f) of the Act.

The Department of Commerce is responsible for implementing the Act with respect to whales and porpoises of the order Cetacea and seals and sea lions of the suborder Pinnipedia. The report details the activities of the Department regarding these marine mammals.

Sincerely,

Secretary of Commerce

Enclosure

Table of Contents

INTRODUCTION..... 1
SUMMARY 3
I. PERMITS THAT ALLOW A TAKE OF MARINE MAMMALS.... 7
General permits
New definition of commercial fishing operations
Authorizations that allow a small take of marine mammals
Permit program for scientific research and public display
II. LAW ENFORCEMENT.....10
III. MARINE MAMMAL AND FISHERIES INTERACTIONS.....12
Interactions in Alaska
Interactions in California
Interactions in the Pacific Northwest
IV. MARINE MAMMAL STRANDING NETWORKS.....17
Alaska Region
Northwest Region
Southwest Region
Northeast Region
Southeast Region
V. INCIDENTAL TAKE OF MARINE MAMMALS IN COMMERCIAL FISHERIES.....21
Incidental take of porpoise in the yellowfin tuna fishery
Incidental take of Dall's porpoise in the Japanese salmon gillnet fishery
Incidental take of pilot whales in squid fishery
Incidental take of marine mammals in the Atlantic Ocean
VI. MANAGEMENT PROGRAMS AND RESEARCH STUDIES FOR WHALES.....29
Bowhead whales in the Beaufort and Chukchi Seas
Humpback whales in the Pacific Ocean
Whales in the Western North Atlantic Ocean
VII. MANAGEMENT PROGRAMS AND RESEARCH STUDIES FOR DOLPHINS AND PORPOISES.....36
Bottlenose dolphin-Atlantic and Gulf Coast
Bottlenose dolphin-California
Harbor Porpoise-West Coast

VIII. MANAGEMENT PROGRAMS AND RESEARCH STUDIES FOR SEALS AND SEA LIONS.....40
Seals
Sea Lions
IX. INTERNATIONAL PROGRAMS AND ACTIVITIES.....48
International Whaling Commission
Inter-American Tropical Tuna Commission
International North Pacific Fisheries Commission
North Pacific Fur Seal Commission
US-USSR Marine Mammal Project, Environmental Protection Agreement
X. LEGAL ACTIONS.....55
XI. APPENDIX (includes tables).....58

Harbor seals hauled out next to oil pier, Santa Barbara Channel, Calif. Photo by The Wildlife Group, Manhattan Beach, Calif.

INTRODUCTION

Since passage of the Marine Mammal Protection Act (MMPA or the Act) in 1972, the United States has been committed to long-term management and research programs to conserve and protect these animals. With few exceptions, the Act placed a moratorium on taking or importing marine mammals or their products into the United States. The Act delegates authority and responsibility for oceanic marine mammals to the Secretary of the Agency where the National Oceanic and Atmospheric Administration (NOAA) operates. Species of the order Cetacea (whales and dolphins) and the order Carnivora, suborder Pinnipedia (seals and sea lions), are the responsibility of NOAA's National Marine Fisheries Service (NMFS). The Department of the Interior is responsible for the dugong, manatee, polar bear, sea otter, and walrus.

Marine mammals that are already managed under international agreements are exempt as long as the agreements further the purposes of the Act. Marine mammals may be taken for scientific research, public display, and incidental to commercial fishing. Under the MMPA, the term "take" means to hunt, capture, kill or harass, or to attempt those actions. In 1981, amendments to the Act added two categories of "small take" to the moratorium exception; one is for commercial fishing and the other applies to other activities such as oil and gas exploration. Also, certain natives of Alaska may take marine mammals for subsistence use and production of handicrafts.

The National Marine Fisheries Service grants or denies requests for exemptions, issues permits, carries out research and management programs, enforces the Act, participates in international programs, and issues rules and regulations to carry out its mission to conserve and protect marine mammals. NMFS cooperates with the States, conservation organizations, the public, other Federal agencies, the Marine Mammal Commission, and many constituent groups including scientific researchers and the public display community.

NMFS's marine mammal research programs are the responsibility of the National Marine Mammal Laboratory (NMML), Northwest and Alaska Fisheries Center, Seattle, Wash.; the

Northeast Fisheries Center, Woods Hole, Mass.; the Southeast Fisheries Center, Miami, Fla.; and the Southwest Fisheries Center, La Jolla, Calif.

Management programs are the responsibility of the Alaska Region, Juneau, Alaska; the Northeast Region, Gloucester, Mass.; the Northwest Region, Seattle, Wash.; the Southeast Region, St. Petersburg, Fla.; and the Southwest Region, Terminal Island, Calif. Research and management programs are coordinated by the Office of Resource Investigations and the Office of Protected Species and Habitat Conservation in the NMFS Headquarters, Washington, D.C.

This annual report to Congress is available from the Office of Protected Species and Habitat Conservation, National Marine Fisheries Service, Washington, D.C. 20235.

SUMMARY

The Marine Mammal Protection Act (MMPA) is considered one of the principal wildlife conservation and management Acts administered by the Federal Government. To broaden our knowledge of marine mammals, the National Marine Fisheries Service (NMFS) dedicates significant resources to study marine mammal populations, life cycles, and reproductive capacities, and, also to manage populations in a way that is beneficial to them.

Since the MMPA allows exceptions to the moratorium on taking marine mammals, many of our management programs focus on decisions concerning allowable takes and means to monitor the take. The General Permit program authorizes both domestic and foreign commercial fishermen to take marine mammals incidental to their fishing operations. The domestic fishery that has the permit to take the largest number of marine mammals is the purse seine fishery for yellowfin tuna in the eastern tropical Pacific. The largest authorization to a foreign fishery is for the Japanese to take Dall's porpoise incidental to their gillnet fishery for salmon in the north Pacific. Along with management programs that monitor the take, NMFS conducts research on how to reduce the incidental take of marine mammals. In 1985, NMFS modified the definition of commercial fishing operations to include commercial passenger fishing vessels, and has issued a permit to the Sportfishing Association of California for a permit to harass marine mammals that interfere with their passenger's catch.

In addition to commercial fishing, the MMPA allows what is called a "small take" of marine mammals incidental to other activities. In response to a request from the Air Force, NMFS issued final regulations that authorize a small take of seals and sea lions when the space shuttle is launched from Vandenberg Air Force Base, California. Seven launches are expected to produce a focused sonic boom over the northern Channel Islands. The regulations allow a take during certain times of the year and require monitoring of the impacts of the take on the species.

Another management program controls the take of marine mammals for public display and scientific research. It is one of the most extensive permit programs in NMFS. From 1973 through December 1985, 803 permit applications have been received, and 576 permits have been issued. In 1985, 44 permits were issued and 349 were monitored for scientific research and public display.

One of the ways NMFS monitors compliance with the rules and regulations and conditions included in permits is through a law enforcement program that includes special agents that are authorized to enforce the Act. These special agents are assisted by other agents in 13 States and the Virgin Islands. The Office of Enforcement reports that, in the past year, most violations involved unlawful taking or harassment of marine mammals.

In the past few years, problems between marine mammals and fishermen have grown. For example, seals and sea lions damage or take the fish catch or gear and sometimes eat the fish that gather around fish ladders that have been constructed to help the fish return to their spawning grounds. In Alaska, there have been reports of killer whales stripping black cod from fishing lines. One of the most publicized incidents involved California sea lions, one of which was nicknamed Herschel, that took salmonids near an entrance to a fish ladder in Puget Sound. NMFS' observation of sea lion feeding habits in this area indicates that if this behavior continues, sea lions could eliminate the remaining wild winter-run of steelhead in the Lake Washington watershed.

Scientists have long studied strandings of marine mammals. To assist in the recovery or disposal of these animals and to gather data for research, NMFS established stranding networks that now cover all U.S. coastal areas, including Alaska. The networks include individuals and institutions that have volunteered to help NMFS collect scientific specimens, record stranding events, and assist local and Federal authorities at stranding sites. This year's most famous "stranding" involved a humpback whale, Humphrey, that was successfully guided back to sea after losing his course and swimming 69 miles up the Sacramento River.

One of NMFS' most intensive management and research programs concern the incidental take of porpoise in the purse seine fishery for yellowfin tuna in the eastern tropical Pacific. NMFS has observers aboard tuna seiners to collect scientific data as well as to observe the incidental take. The Southwest Region assists operators of these seiners by holding workshops for skippers and inspecting vessels to ensure that the required porpoise safety gear is present and properly installed. The purpose of the research program which is coordinated by the Southwest Fisheries Center is to improve our knowledge of the population biology of the porpoise that associate with tunas. An expanded monitoring program of porpoise involves the use of research ships to collect data to monitor trends in population size.

Sometimes the popularity of a marine mammal, usually whales or dolphins, is reason for NMFS to take special measures to ensure its safety. For example, the humpback whale is especially exciting to watch and to study, both while the Pacific stock winters in the Hawaiian Islands and the Atlantic stock summers in the New England area. NMFS has issued special guidelines to whale watchers that will help them avoid harassing whales.

NMFS also has special management and research programs for the bottlenose dolphin which is a popular animal to acquire for public display. NMFS authorizes taking only from areas along the Atlantic and Gulf coasts where populations have been assessed. The Southeast Region coordinates all takings and the Southeast Fisheries Center coordinates an extensive research program that includes providing estimates of abundance and recommendations on how many can be taken without harming the populations.

Some marine mammals are managed not only under the MMPA but also the Endangered Species Act (ESA). The Hawaiian monk seal is an example of a species that comes under the protection of both. NMFS has designated critical habitat for the monk seal out to 10 fathoms in areas where special management considerations are necessary. The Southwest Fisheries Center's Honolulu Laboratory coordinates the research programs necessary for the recovery of this species, and the Southwest Region coordinates management programs such as the designation of critical habitat. Another marine mammal, the Guadalupe fur seal was listed as threatened under the ESA in 1985. Although the primary breeding colony is on Isla de Guadalupe, Mexico these seals are sighted occasionally around the Channel Islands off southern California.

The northern fur seal on the Pribilof Islands is managed under the MMPA and the Fur Seal Act (FSA). Prior to the 1983 amendments to the FSA, NMFS was responsible for administering the Islands as well as managing the fur seals and the commercial harvest allowed under an international treaty. Now NMFS manages the seal populations and conducts research under the FSA and the MMPA. Since the United States has not ratified the protocol extending the treaty that allowed commercial harvest for skins, it could not be held in 1985. Instead, native residents conducted a subsistence harvest for food. In 1985, 3,713 seals were taken during this harvest compared to the 22,416 that were taken in the last commercial harvest authorized by the International Convention in 1984. The National Marine Mammal Laboratory continues to study the northern fur seal including the reasons for its declining population.

Most marine mammals are wide-ranging migratory animals, and international laws, treaties, and conventions are necessary for

their protection. NMFS participates in many international organizations to achieve the purpose of the MMPA. At the 37th Annual Meeting of the International Whaling Commission, no changes were made in a 1982 decision to end commercial whaling by the 1985-86 whaling season. The U.S.S.R., Japan, and Norway filed objections to the moratorium which removed any technical obligations for them to comply. The United States entered into an agreement with Japan that was designed to end all Japanese whaling no later than 1988. This agreement was challenged by the American Cetacean Society. After the courts ruled in favor of the Society, the U.S. Government appealed the case to the Supreme Court. The IWC also sets bowhead whale quotas for Alaska natives which are based on the Commission's aboriginal/ subsistence whaling management scheme. One of the management principles adopted by the IWC includes requiring that hunting be managed to provide for the recovery of depleted whale populations.

Other international activities include participation in the Inter-American Tropical Tuna Commission which provides funds for observers on tuna purse seiners; the International North Pacific Fisheries Commission under which the United States and Japan have an agreement that provides for research on Dall's porpoise incidentally taken in the Japanese high-seas salmon fishery; the North Pacific Fur Seal Commission which reviews data on the status of this species; and the U.S.-U.S.S.R. Marine Mammal Project which provides for joint research and exchange of information concerning marine mammals.

I. PERMITS THAT ALLOW A TAKE OF MARINE MAMMALS

General Permits

NMFS' general permit system authorizes the incidental taking of marine mammals by both domestic and foreign fishermen during commercial fishing operations.

Foreign Permits. General permits are issued to foreign fishing associations or embassies whose governments have a governing international fishery agreement (GIFA) with the United States allowing them to fish in the U.S. exclusive economic zone. In 1985, NMFS issued or continued 9 foreign general permits that allow a total taking of 5,736 marine mammals. This includes the take of 5,500 Dall's porpoise during salmon gillnet operations under a general permit issued to the Federation of Japan Salmon Fisheries Cooperative Associations.

Domestic Permits. If domestic fishermen incidentally take marine mammals in a commercial fishing operation, they may apply for a certificate of inclusion issued under a general permit. Excluding the general permit issued to the American Tunaboat Association and its annual quota of 20,500 porpoise, NMFS has issued 9 domestic general permits which are valid until 1988. These permits allow a total taking of 6,425 animals each year. Table 1 in the Appendix includes a list of foreign and domestic fishing corporations with permits and the number of marine mammals they are allowed to take.

New Definition of Commercial Fishing Operations

In response to a petition from the Sportfishing Association of California, NMFS modified regulations concerning commercial fishing vessels to include commercial passenger fishing vessels (CPFVs) which are hired for sportfishing. Marine mammals, California sea lions in particular, interact frequently with sport fisheries. In December 1985, NMFS published this modification to the definition of commercial fishing operations, issued new regulatory restrictions, and defined new certification requirements. The Association applied for and has received a general permit that allows operators of CPFVs to legally take marine mammals interacting with their catch as long as the take is in a non-lethal, non-injurious manner.

Authorizations that Allow a 'Small Take' of Marine Mammals

Commercial fishing. A 1981 amendment to the MMPA allows an incidental, but not intentional, taking of small numbers of nondepleted species or stocks of marine mammals by U.S. citizens engaged in commercial fishing operations. This exemption to the general permit requirements of the Act can be granted only if the total taking will have a negligible impact on the species or stocks involved and, if a reporting system has been established among the fishermen involved, to monitor and report any taking.

Exemptions have been granted for a small take of marine mammals to the National Fish Meal and Oil Association which includes owners and operators of U.S. menhaden vessels in the Atlantic Ocean and to New England groundfish gill netters. (See Table 1 in Appendix for allowed take).

Activities Other Than Commercial Fishing. The "small take" amendment also allows a take of non-depleted marine mammals incidental to specified activities in specific geographical locations. However, unlike the authorization for a small take incidental to commercial fisheries, regulations must be issued for each activity. In 1982, regulations were published which govern a small take of ringed seals incidental to seismic activities on the ice in the Beaufort Sea. Each year individual seismic companies apply for an authorization to take ringed seals under this exemption. In 1986, three companies requested and were authorized to take ringed seals during the 1986 exploration season in the Beaufort Sea.

In response to a Department of the Air Force request to take seals and sea lions incidental to launchings of the space shuttle over the Northern Channel Islands from Vandenberg Air Force Base (VAFB), California, NMFS issued final regulations governing the take on April 7, 1986.

The Air Force requested an authorization to potentially harass six species of pinnipeds including the harbor seal, California sea lion, northern sea lion, northern elephant seal, northern fur seal, and Guadalupe fur seal. Since NMFS has listed the Guadalupe fur seal as threatened under the Endangered Species Act (ESA), this species is not included in the exemption.

The Air Force describes the taking as infrequent, incidental, and unintentional harassment due to focused sonic booms generated over the Northern Channel Islands when the space shuttle is launched from VAFB. Launches are scheduled to begin in 1987 and continue through 1994. Out of 80 planned launches, 7

are predicted to occur in trajectories that will produce focused sonic booms over the Northern Channel Islands. Focused sonic booms occur when the space shuttle curves toward the horizontal, and its sonic boom is focused into a narrow zone of particularly high sound pressure.

Permit Program for Scientific Research and Public Display

Under the MMPA, NMFS may issue permits for taking or importing marine mammals for scientific research or public display. This program is one of the most extensive administrative programs in NMFS. This agency not only reviews and decides whether to issue the requested permits, but continues to monitor the permits as long as they are valid. Currently, NMFS is monitoring 349 permits for scientific research and public display.

During the past year, NMFS considered 59 applications for permits. Of these, 29 have been issued for scientific research and 15 for public display. Also, NMFS processed 102 requests for modifications or authorizations.

The process for granting a permit involves three steps:

1. Receipt and initial review of the application by NMFS, publication of a notice of receipt in the Federal Register, and transmittal of the application to the Marine Mammal Commission for review;

2. A 30-day review of the application by NMFS, the Commission, the public, and other Federal agencies; and

3. Final processing by NMFS, including consideration of comments, and approval or denial of the application.

See Tables 2 through 9 in the Appendix for an overview of this permit program since it began in 1973.

II. LAW ENFORCEMENT

The moratorium on taking marine mammals is enforced by special agents from NMFS and State agents under contract. NMFS has about 92 agents that participate in enforcement of the MMPA. Over the years, most violations have involved the illegal importation of marine mammal parts or products as well as activities related to incidental take of marine mammals in fisheries. However, this trend appears to be changing. During this reporting period, NMFS special agents spent 6,095 hours investigating 193 alleged violations of the Act. Of these, 53 percent involved the unlawful taking or harassment of marine mammals.

NMFS special agents also investigate reports of stranded or beached marine mammals. Strandings occurred in record numbers, totaling 1,195 animals. Following the aftermath of hurricane "Juan" in Louisiana, 46 short-snouted spinner dolphins were stranded. In California, "Humphrey," the humpback whale that gained world-wide attention when he lost his course and swam 69 miles up the Sacramento River, was successfully guided back to sea.

NMFS special agents and State conservation officers cooperate to enforce the Act in most coastal states. NMFS currently has cooperative enforcement agreements or memoranda of understanding with Maine, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, South Carolina, Alabama, Louisiana, the Virgin Islands, Calfiornia, Oregon, and Washington.

Humpback whale "Humphrey" at the Liberty Bridge, Shag Slough, Sacramento River delta, Calif., October 1985. Photo by Peter Chorney, Southwest Region, NMFS.

III. MARINE MAMMAL AND FISHERIES INTERACTIONS

Interactions between marine mammals and fishermen sometimes present difficult problems both for the animals and the humans who depend on the fishery resource. During some commercial fishing operations, marine mammals are killed, injured, or harassed. On the other hand, marine mammals take or damage fish caught on lines or in traps and nets; they damage fishing gear during these encounters or when they accidentally become entangled. Sometimes, they compete with fishermen for the same fish and shellfish resources.

Before the Act, various forms of harassment were used to control the distribution, abundance, and behavior of marine mammals. However, since the Act imposed a moratorium on these activities, animals in certain areas have become more numerous and bolder in their interactions with fishermen and fishing gear. Through research studies and management programs, NMFS is attempting to solve this problem.

Interactions in Alaska

During 1985, longline fishermen for black cod (sablefish) in Prince William Sound began reporting that 50 percent or more of their catch was being lost to killer whales (the fish were stripped off as the lines were being retrieved). Damage also included straightened or lost hooks. Although fishermen tried relocating to adjacent areas, using seal bombs, or fishing at night, no action was effective. Eventually, irate fishermen began shooting at the whales. Bullet wounds were noted and reported by research groups conducting photographic identification studies of killer whales in Prince William Sound.

To gain more information on this problem, the Alaska Regional Office contracted with the North Gulf Oceanic Society to survey all available killer whale photographs to determine how many animals have been affected, and also to survey fishermen to determine the extent of their losses. It was determined that fishermen in Prince William Sound lost approximately 25 percent of their potential catch to killer whales in 1985. The killer whale pod which was responsible for these losses is believed to have suffered a mortality rate which was more than twice that suffered by other pods in Prince William Sound. A meeting was held at the Northwest and Alaska Fisheries Center to study possible solutions to this problem. A letter has since been sent

to all fishermen who landed blackcod in Prince William Sound in 1985 summarizing the latest information and warning them not to shoot whales. Recently acquired information indicates that killer whales have also begun stripping fish from longlines in the domestic fishery for black cod near Dutch Harbor and in the Japanese offshore fishery for blackcod near Dutch Harbor in the southern Bering Sea.

Interactions in California

Under contract from the Southwest Region and Southwest Fisheries Center, the California Department of Fish and Game (CDFG) continued investigating marine mammal-fishery interactions. A recent report from CDFG included the results of the 1984 California coast-wide harbor seal census, the shark/swordfish drift gillnet observation program, and tests of devices for the acoustic harassment of marine mammals. The CDFG also completed a report concerning the incidental mortality of harbor porpoise in the halibut fishery off central California. These reports are available from the Southwest Region in Terminal Island, California.

The incidental take of marine mammals in several California gillnet fisheries and determination of fishing areas and levels of fishing effort by each fishery were observed by researchers. A coastwide aerial survey of harbor seals is scheduled to be flown in June 1986. Testing continued on acoustic harassment devices. CDFG has a research permit from NMFS to test a taste-aversion procedure using chemical emetics to deter pinnipeds from damaging the catch of fishermen. These tests are scheduled for the summer of 1986.

Interactions in the Pacific Northwest

Of the 28 species of marine mammals that occur in the waters of the Northwest Region, less than ten are commonly encountered by commercial fishermen and only three (harbor seal, California sea lion, and northern sea lion) are regularly involved in fisheries conflicts. Although the populations of harbor seals and California sea lions do not seem to be affected by these conflicts, all three affect the catch of fishermen and possibly some of the fishery resources.

Fishery conflicts with pinnipeds have been reported from almost all of the Northwest fisheries. There are potentially significant and increasing problems in most salmon fisheries resulting in damage or loss of catch and gear, loss of fishing time, and in some cases, the need to modify normal fishing procedures. This conflict is most severe in the salmon gillnet fisheries. To assess the extent of the marine mammal/fisheries interactions in salmon gillnet fisheries, NMFS funded a 3-year program of research by the Washington Department of Game (WDG) in the Columbia River and adjacent waters. This research program documented that marine mammal/fisheries interactions occurred in 62 percent of the salmon gillnet fishing trips sampled in the area, and those interactions resulted in gear damage, fish loss or damage, and incidental takes in 36 percent of the fishing trips. Fish damage rates as high as 50 percent of the catch were documented in some seasons in the Columbia River. Researchers were unable to determine the numbers of salmon totally removed from nets; those numbers could be quite high in some seasons.

There also are increasing concerns in the Northwest over the potential impact of seals and sea lions on free swimming salmonids. Recent NMFS funded studies by WDG at a steelhead hatchery documented that over 30 percent of the returning steelhead had scars and scratches caused by seals and sea lions. The number of fish failing to return because of injuries or predation by seals and sea lions is unknown. Private salmon aquaculture facilities have reported that about 15 percent of their returning coho and chinook have scars and other damage inflicted by seals.

Harbor Seal-Fishery Interactions. Harbor seal-fishery interactions in the salmon gillnet fisheries are perceived to be severe by fishermen. Harbor seals which are involved in most of the fisheries interactions are experiencing dramatic population increases. Stock assessments indicate harbor seal populations have increased more than 10 percent annually in Washington since 1976 and about 7 percent annually in Oregon since 1977. During winter months, there is a major movement of harbor seals into the Columbia River from adjacent Oregon and Washington populations. The highest abundance of seals in the Columbia River generally corresponds to the height of the Columbia River smelt runs. Most harbor seal reproduction occurs in the embayments of Washington and Oregon.

Although harbor seals damage caught fish, there also is an incidental take of harbor seals in most salmon gillnet fisheries. The WDG studied seal interactions with the following fisheries: spring chinook in the Columbia River, summer feeder chinook fisheries in Grays Harbor and Willipa Bay, fall chinook and coho fisheries in the Columbia River, Grays Harbor and

Willipa Bay. The aggregate value of these fisheries in 1980 was about 4.5 million dollars and estimated seal damage to caught fish amounted to $137,000 or about 3 percent of the total value.

The greatest damage to caught fish occurred during "scratch fisheries", when fish abundance is low. When salmon abundance peaked during the height of the runs, the proportion of damaged fish declined dramatically. This is illustrated by data from the July 1980 feeder chinook fishery in Grays Harbor and Willipa Bay which resulted in average landings of only 2 and 2.6 fish respectively but seal damage to 77 percent of all fish caught. In August, with the return of adult fish to the systems, landings averaged 5 fish for Grays Harbor and 8 for Willipa Bay with damaged fish rates of around 20 percent and less than 10 percent, respectively.

Evaluation of Measures to Mitigate the Harbor Seal-Fishery Interaction. Between 1983 and 1985, the WDG conducted research on mitigating measures on the gillnet fisheries of the Columbia River and in an Indian gillnet fishery in southern Puget Sound. Seal harassment methods used by fishermen on the Columbia River to protect gear and catch include shooting at animals, throwing "seal bombs", and running the boat along the actively fishing net. In addition, an Acoustic Harassment Device (AHD) called the "Sealchaser" was developed through NOAA Sea Grant-sponsored research and development efforts at Oregon State University. Initial field testing by University researchers indicated the device was potentially effective in keeping seals away from nets and reducing seal inflicted damage to the catch. In tests that spanned two years and involved different fisheries, the effectiveness of the AHD was evaluated independently and also compared with seal bombs, shell crackers, and running a boat along a net. Some tests resulted in reduced fish damage rates while other tests actually showed an increase in fish damage from use of the AHD.

The AHD was cost-effective only for the first 3-4 weeks it was used in a given fishery. Prolonged use eventually resulted in the paradoxical effect of increased salmon damage rates from seals. The WDG concluded that either (1) individual seals have differential tolerances to the sound signal; (2) seals become accustomed to the sound (possibly because it was emitted continuously); (3) the intensity is not sufficient to cause unconditioned aural pain in seals over the length of the net; (4) some seals learn the limits of danger associated with this (initially startling) sound stimulus; and/or (5) the sound signal becomes a conditioned reinforcer for seals to find and eat fish in the net.

Sea Lions in Puget Sound. In recent years, a number of California sea lions (one of which was nicknamed "Herschel") have learned that the entrance to fish ladders is an ideal site for easily capturing and consuming salmonids. These sea lions, which migrate from California into the inland waters of Washington (Puget Sound) each winter, have become annual residents in the tailrace of the Ballard dam/locks (which separates fresh water from the salt water of Puget Sound) where steelhead and salmon migrating to the Lake Washington watershed congregate before entering a fish ladder adjacent to the dam. Up to five animals at a time have been observed consuming salmonids daily in front of this fishway from late November to April. Washington Department of Game fish biologists documented a substantially reduced escapement (60 percent below escapement goal) of 1984-85 wild winter-run steelhead in the Lake Washington watershed in 1985. Since no similar declines were occurring in other areas, this was tentatively attributed to the sea lions. Further observations of sea lion feeding behavior by marine mammal biologists in December 1985 provided data that clearly indicated the sea lions could indeed affect, if not eliminate, the remaining wild winter-run of steelhead.

To protect this severely depleted wild run of steelhead in the Lake Washington watershed, the WDG in cooperation with NMFS and the Army Corps of Engineers initiated a non-lethal harassment program in January 1986 using firecrakers and acoustic devices to scare the sea lions out of the area adjacent to the fish ladder. The effort was conducted under the authority of Section 109(h) of the MMPA which provides for the non-lethal removal of nuisance animals. An around-the-clock cooperative harassment effort by WDG and NMFS continued through the end of March when the majority of the wild steelhead run had passed through the fishway. This program was effective in minimizing sea lion predation on steelhead at a site where the fish are extremely vulnerable.

IV. MARINE MAMMAL STRANDING NETWORKS

All five NMFS Regions operate marine mammal stranding networks that include individuals and organizations that have volunteered to cooperate with NMFS. Authorized members collect scientific specimen materials, record stranding events with the Regional Coordinator, and assist local and Federal authorities in the removal of the stranded animals.

Alaska Region

In 1985, the Alaska Region established a cetacean stranding network which includes ten regional response centers and one marine mammal rehabilitation center. The response centers collect data on stranded cetaceans in each region. These data are then sent to the Alaska Regional Office in Juneau and forwarded to the Smithsonian Institution's Marine Mammal Events Program. All known coastal villages, flying services, and public safety officials have been notified of the appropriate regional center to which strandings should be reported. A press release has been sent to the media in the State to describe the network and provide phone numbers for reporting a stranding.

On June 26, 1985, the Alaska Regional Office was notified that a humpback whale had become entangled in a fishing net about 15 miles south of Juneau. With assistance from the U.S. Coast Guard, the University of Alaska-Juneau, and other interested parties, the whale was located and found to be completely entangled in a salmon gill net. Over an eight hour period, the net was carefully cut away by hand every time the whale surfaced. After its head and pectoral fins were free, the whale swam to shallow water and pulled the rest of the net off on the rocks. When last seen, the whale was swimming normally.

Northwest Region

Participants in the Northwest Marine Mammal Stranding Network investigated over 300 marine mammal strandings in Washington and Oregon in 1985. In the Northwest, the general public is advised to report strandings to the Washington State Patrol or the Oregon State Police who relay the information to

one of five Stranding Network Response Centers. The Response Centers coordinate the appropriate action which varies from providing advice to dispatching a team of scientific investigators. Since many of the reported "strandings" can't be found or verified and others are live healthy seals or sea lions that were perceived to be sick or ill by the public, the Response Centers screen all calls to determine which reports are verifiable sightings that might warrant a prompt response or scientific investigation. The Response Centers notify appropriate state or local authorities, or volunteer network participants, who investigate the stranding and prepare a written report for NMFS.

Southwest Region

The SWR stranding network coordinator has entered stranding reports from 1983 through 1985 into a computerized data base. Analysis of this data base contributed to reports evaluating stranding trends, quality of data, and the roles of marine mammal rehabilitation programs. A report evaluating the effectiveness of the stranding network data as a management tool was prepared based on information collected from 1982-1983. In 1985, 461 pinniped, 77 cetacean, and 6 sea turtle strandings were reported for the California coast (see Table 1). Fewer California sea lions strandings were reported in 1985 than the previous year where many strandings north of Monterey were attributed to an outbreak of the disease Leptospirosis. Human-related strandings (36) included fishery interactions (mostly with gillnets), shooting, and entrapment in power plant water intakes. A workshop to facilitate the recovery of scientific information by network members was hosted at the regional office.

In 1985, a stranding network was set up for the Hawaiian Islands. Since July 1985, Western Pacific Program Office personnel and cooperating agencies responded to five cetacean strandings. Entire skeletons were collected from strandings of a bottlenose dolphin, a melon-headed whale, and a pygmy sperm whale.

Northeast Region

In this region, NMFS summarizes data and information covering strandings and makes it available to network members through a quarterly report from its Habitat Conservation Branch. The Northeast Regional Stranding Network reports strandings, notifies enforcement agencies, recovers live and dead stranded marine mammals and coordinates and reports scientific research. It includes representatives from the NMFS Office of Enforcement, State law enforcement agencies, State and local fisheries officers, and six institutions that hold Letters of Agreement from the Northeast Region. All non-law enforcement personnel working in the network come under the control of the Letter of Agreement holders. Holders of Letters are the only institutions that can legally respond to a stranding.

The region is divided into separate geographical areas of responsibility. The network identifies and assists individuals and institutions in the areas that are carrying out programs beyond basic data collection. Marine mammal parts are made available to qualified universities, museums and individual researchers for public display or educational purposes.

Southeast Region

The Southeast Region maintains a directory of all participants in their network. The Regional Director issues Letters of Authorization to all participants; in 1985, 28 authorizations were issued.

Table 1. Cetaceans reported to the California Marine Mammal Stranding Network in 1985.

Common Name - Species	Number Reported	Percent Of Total
Common dolphin - *Delphinus delphis*	22	28.6
Harbor porpoise - *Phocoena phocoena*	22	28.6
Gray whale - *Eschrichtius robustus*	14	18.2
Bottlenose dolphin - *Tursiops truncatus*	6	7.8
Pacific white-sided dolphin - *Lagenorhynchus obliquidens*	6	7.8
Blainville's beaked whale *Mesoplodon densirostris*)	1	1.3
Beaked whale *Mesoplodon* sp.	1	1.3
Cuvier's beaked whale - *Ziphius cavirostris*	2	2.6
Killer whale *Orcinus orca*	1	1.3
Pygmy sperm whale - *Kogia breviceps*	1	1.3
Risso's dolphin *Grampus griseus*	1	1.3
Total	77	100.1

V. INCIDENTAL TAKE OF MARINE MAMMALS IN COMMERCIAL FISHERIES

Incidental Take of Porpoise* in the Yellowfin Tuna Fishery

Although considerable progress has been made in reducing the number of porpoise killed each year in the purse-seine fishery for yellowfin tuna in the eastern tropical Pacific, NMFS continues to commit its resources to reducing further this incidental take of marine mammals.

Management programs are carried out by the Southwest Region. One program involves using observers aboard tuna seiners to collect scientific data as well as observe the incidental take of porpoises and methods used by the fishermen to avoid a take. During 1985, 46 tuna/porpoise observer cruises were fielded aboard commercial tuna purse-seine vessels operating under U.S. flags. The Inter-American Tropical Tuna Commission (IATTC) fielded half of the cruises and half were fielded by NMFS. In 1985, the Southwest Region held tuna seiner operator's workshops for 11 skippers. NMFS issued Certificates of Inclusion (under a general permit that allows an incidental take of porpoise) to 79 operators and 36 vessels.

Net and gear inspections were completed for 22 vessels to ensure that required porpoise safety gear was present. Additionally, eight preliminary inspections were conducted by observers at sea. Assistance was provided for a vessel in the alignment of its super apron during a trial-set in waters off San Diego.

The preliminary estimate of total porpoise mortality for calendar year 1985 in U.S. tuna purse seine nets is 19,205 porpoise; the allowable take is 20,500.

The tuna/porpoise research program is coordinated by NMFS' Southwest Fisheries Center. The purpose of this program is to improve our knowledge of the population biology of porpoise associated with the purse-seine fishery for tunas in the eastern

---

*NMFS uses the term porpoise, rather than dolphin, to prevent confusion with the dolphin fish, an object of sport and commercial fishing. However, the common name is used when discussing individual species or stocks such as an eastern spinner dolphin.

tropical Pacific Ocean (ETP). This year, the research effort concentrated on questions concerning changing abundance of the porpoise stocks, stock structure and distribution, biological profiles of the animals killed, and the rate these animals are replaced through new births.

In its 1984 reauthorization of the MMPA, Congress called for an expanded stock monitoring program. In response, the Center will use research ships to collect data for monitoring trends in population size. A committee of scientific experts reviewed a draft design developed by scientists at the Center. The design addressed two questions: the number of research vessels required to survey the area inhabited by the stocks of porpoise associated with the fishery and the number of years required to detect trends in abundance. The committee, composed of scientists from the Marine Mammal Commission, the Inter-American Tropical Tuna Commission (IATTC), the Porpoise Rescue Foundation, the Environmental Defense Fund, and North Carolina State University, concluded that a 6-year program of annual surveys using two survey vessels and operating between August and December would be required to detect a significant decrease in abundance over a 5-year period. NMFS scientists drafted plans for a survey using two research vessels and one helicopter in six annual surveys. The first cruises are scheduled to depart in July 1986.

In support of the research vessel surveys, tests were conducted aboard the R/V D.S. JORDAN to investigate use of a computer-assisted sighting technique (CAST) to improve accuracy of measuring the distance between a marine mammal school and the ship's trackline and the angle of the line of sighting from the trackline. The accurate measurement of distance and angle is the key to using the line-transect method to monitor abundance of porpoise. CAST enables significant improvements in estimates of distance and angle and, therefore, significant improvements in indexing of abundance.

In a parallel approach to detecting trends in abundance, NMFS scientists are examining the possible use of porpoise sighting information collected aboard commercial tuna purse seiners in the eastern tropical Pacific. These data have been collected systematically by scientific observers since the early 1970's. A meeting of experts on tuna/porpoise interaction provided advice on how to use the observer data to monitor trends. The group suggested research projects which might yield information required for monitoring abundance trends. Suggested projects are under review or have been started, some in cooperation with IATTC.

Preliminary work on seasonal patterns of porpoise distribution was completed. The analysis concentrated on the

four species targeted by the fishery: spotted, spinner, common and striped dolphins. Sighting information was combined with oceanographic information. Factors examined included geographic areas (four large sub-areas based on thermocline topography and current structure), seasons (calendar quarters) and inter-annual periods (whether or not another related event such as El Nino was present). Because areas and inter-annual periods were defined from environmental considerations, they provide indirect tests of the association of encounter rates with these environmental features. Analyses suggest that there are pronounced changes in porpoise school density and school size by season and sub-area within the ETP. Further, there appear to be differences between El Nino and non-El Nino periods in the distribution of encounter rates and school sizes. These patterns are complex and may be complicated further by changes in tuna vessel fishing patterns and strategies for searching for tuna.

Biological research on ETP porpoise continues regarding stock-structure, age-determination, growth, reproduction, and bioenergetics. Data for biological studies of population condition and replacement rates of ETP porpoise continue to be compiled and analyzed by Center scientists. Biological profiles are taken on incidental mortalities by tuna vessel observers, and biological samples (whole carcasses or tissue samples) are collected at sea, preserved, and returned to the laboratory for analysis (age, sexual condition, possible stock membership, pathologies, etc.). Information and samples collected are entered into data bases maintained by the office of the Regional Director. The goal is to develop indices for monitoring conditions of the exploited populations and to improve estimates of replacement rates should changes in allowable take become necessary.

The division of stocks of the eastern and offshore whitebelly spinner dolphin and of the offshore northern and southern spotted dolphin is considered provisional. Work using both morphological and genetic measures of stock identification continues. Analysis of mitochondrial DNA (mtDNA) is being used to examine how the populations of spinner dolphin are related. Analysis of mtDNA clones (lineages) indicate that sufficient interbreeding between the eastern and whitebelly stocks has occurred (or is occurring) so that the distribution of the lineages does not appear to be correlated with the eastern or whitebelly morphotype. However, it appears that strong selection has occurred (or is occurring) to maintain morphological discreteness in the presence of gene flow which has intermixed the lineages. This implies that these physical traits may have an adaptive or survival benefit to its possessor.

The Center continued investigating age-related reproductive parameters in an effort to provide population indices to indicate trends of population condition. To reach the goal of improved estimation of replacement rates and development of density-dependent condition indices of exploited porpoise population, researchers continue to investigate age distribution, age at sexual maturity, lifetime reproductive potential, sex ratio, proportion of mature females and estimates of natural mortality--all necessary to determine population growth rates.

Readings of teeth of porpoise for age determination and growth were completed for samples of female spinner dolphins collected from 1973 to 1982. This marked the successful end of the second phase of efforts to analyze growth rates, age structure, sexual maturity, and age-specific reproduction rates in the northern and southern whitebelly spinner and eastern spinner dolphins. Since examination of the data resulted in the discovery of large biases in the samples due to sampling conditions, the preparation and reading of large samples of teeth for age distribution and growth has been discontinued this year. However, a small sample of teeth will still be collected and recorded and attempts made to eliminate the sampling bias. The Center is continuing to refine age estimation techniques to increase the accuracy of growth layer interpretation. Some aging of animals will be required to make periodic measurements of age-related vital rates such as age at sexual maturity.

During the year, about 1,400 gonad (sex glands) specimens from porpoises killed incidentally during fishing operations were collected and processed. Reproductive information from these samples will be used to study seasonality in reproductive behavior, responses of populations to levels of fishing effort and other vital rates.

Work has been conducted on the origin of the association between yellowfin tuna and spotted dolphins. Results of experiments using comparative bioenergetic models for the two groups suggests that the origin of the association may be explainable on the basis of optimal sustained cruising speed for each species. Persistence of the association could be explained on the basis of feeding dynamics. Although the association could have arisen fortuitously on the basis of cruising speed, energetics models predict that persisting in the association could be a problem for tuna. Estimated forage requirements for porpoise are 5 to 15 times greater than requirements for tuna; thus, tuna are associating with an especially voracious competitor. But tuna are much smaller than porpoises and have correspondingly smaller stomachs. Given equal probability of successfully capturing an item of prey, tuna will have full stomachs earlier than porpoise. Thus tuna will complete their

feeding bout while food is still relatively dense; porpoise will have to continue feeding on prey that are more dilute. Studies of porpoise acoustics suggest that the animals may have superior ability to locate prey. If so, tuna would benefit from associating with porpoise by encountering prey more often and at no added energetic cost. The persistence hypothesis is supported by the observation that stomach contents of tuna and porpoise caught simultaneously are similar.

Incidental Take of Dall's Porpoise in the Japanese Salmon Gillnet Fishery

Marine mammals, primarily the Dall's porpoise, are taken during commercial gillnet operations by Japanese fishing vessels both in and out of the U.S. exclusive economic zone (EEZ) in the North Pacific Ocean and Bering Sea. Under a permit issued by NMFS, the Japanese salmon mothership fishery may take up to 5,500 Dall's porpoises annually inside the EEZ. Based on our observer records, we estimate that the total take in 1985 was 2,760 animals inside the EEZ.

In 1985, NMFS monitored the incidental take by the Japanese with U.S. observers aboard catcherboats. Observers from the Japan Fisheries Agency were also aboard catcherboats to monitor the incidental take. Observers collected data on the incidental take of chinook salmon and steelhead trout during gillnet operations and on seabird entanglements. NMFS continued a cooperative research program that began in 1982 with the U.S. Fish and Wildlife Service on the incidental take of seabirds during this fishery.

Scientists from the National Marine Mammal Laboratory are continuing the research programs initiated in 1978 under a Memorandum of Understanding with Japan and the MMPA general permit. In 1985, a U.S. biologist on board each of the Japanese salmon motherships collected biological samples and data from all incidentally taken marine mammals returned to the motherships. Japanese nationals collected samples from porpoise taken north of the EEZ. Data are used to obtain biological parameters and trends in the population. Sighting data were collected for determination of population size.

Incidental Take of Pilot Whales in Squid Fishery

There is an occasional incidental take of pilot whales during the commercial fishery for squid off southern California which takes place during the winter months, primarily around Santa Catalina Island. To continue a monitoring program started in 1980, the Southwest Region in cooperation with the California Department of Fish and Game and the Southwest Fisheries Center completed a 1-week aerial survey to census pilot whales around Santa Catalina Island. The survey was flown during December 1985, and 15 animals were sighted. These surveys will be used to monitor the status of the pilot whale population in southern California waters. NMFS has published the first paper on the food habits of pilot whales occurring offshore of southern California.

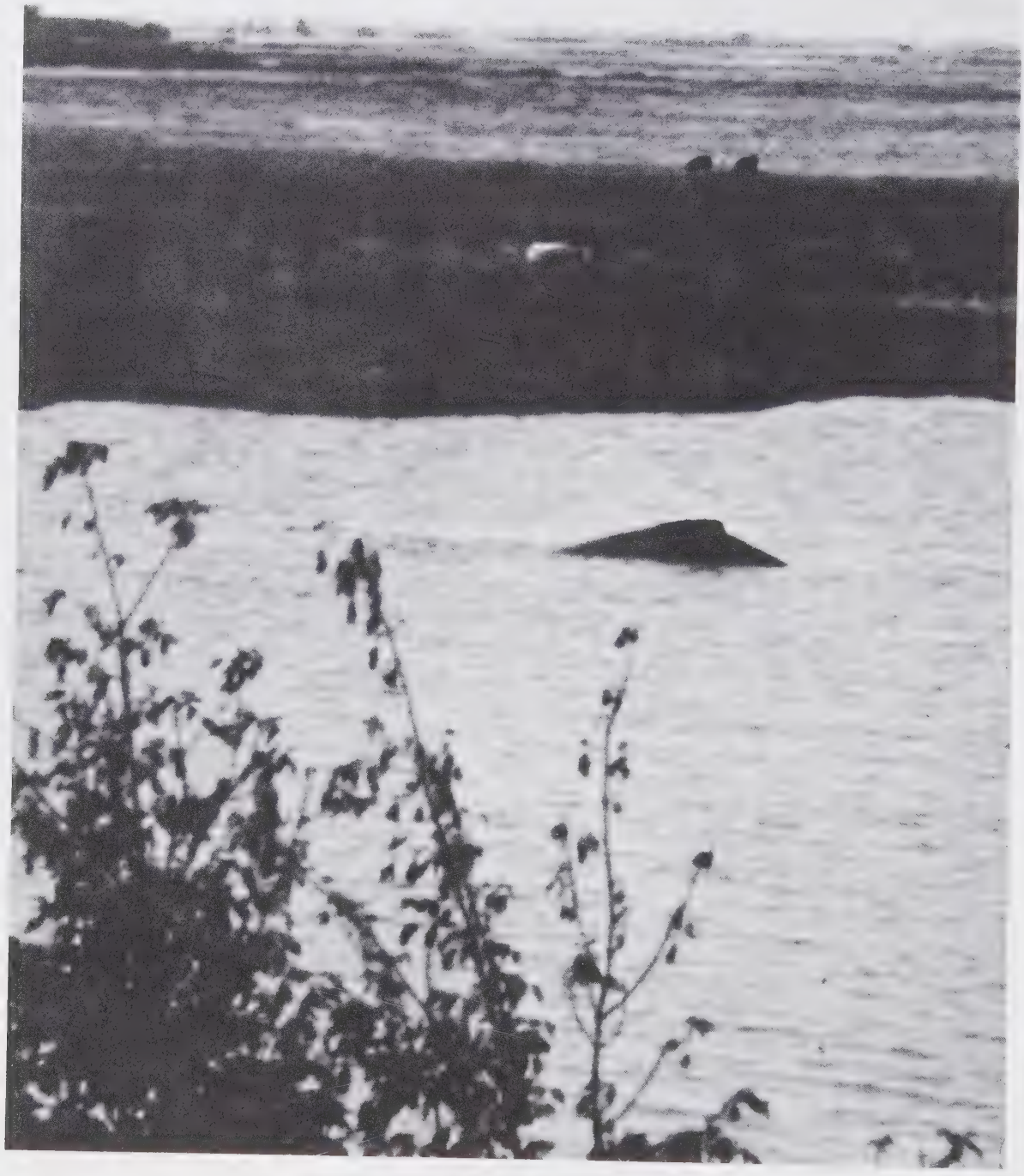
Incidental Take of Marine Mammals in the Atlantic Ocean

Marine mammals are taken occasionally in fishery operations in the Gulf of Maine and in foreign fishing and joint fishery ventures in the Mid-Atlantic. Marine mammal interactions with bottom gillnet operations for groundfish (cod, haddock, hake, cusk, pollock and spiny dogfish) in the Gulf of Maine usually result in little damage to gear or catch. However, entanglement of harbor seals, harbor porpoise, and other small dolphins has been reported. NMFS is funding studies to determine the extent and impact of marine mammals/fisheries interactions on both the marine mammal and fisheries populations in the Gulf of Maine. The University of Maine is studying the distribution and abundance, habitat use patterns, and population characteristics of harbor seals and harbor porpoise, and it is investigating the fisheries interaction problem for all marine mammal species in the Gulf of Maine.

Marine mammals are taken incidentally in foreign fishing and joint fishery ventures that use trawling gear for squid, mackerel, and butterfish in the Mid-Atlantic offshore waters. NMFS observers reported 112 marine mammals captured incidentally in directed and joint venture fishing activities. Long-finned pilot whales and common dolphins comprise the majority of the catch.

Pilot whales, common dolphins, and false killer whales are the most likely marine mammals involved. Preliminary analyses of data suggest that the total take of marine mammals in fishery

operations in the Northeast Region is not significant and does not seriously threaten the marine mammal populations. However, potentially significant interactions have been reported to the Region involving the entanglement of whales in fixed fishing gear such as gill nets and lobster gear.



"Humphrey" the humpback whale in Shag Slough, Sacramento River delta, California, October 1985. Photo by Peter Chorney, Southwest Region, National Marine Fisheries Service.

VI. MANAGEMENT PROGRAMS AND RESEARCH STUDIES FOR WHALES

Bowhead Whales in the Beaufort and Chukchi Seas

Although bowhead whales are listed as an endangered species, Alaska natives are allowed to hunt them for subsistence purposes. Catch limits for the hunt are set by the International Whaling Commission and regulations for management of the harvest are implemented under the Whaling Convention Act of 1949. The strike quota for 1984 and 1985 was set at 43 with no more than 27 strikes allowed in either year. Of these, 25 were used in 1984. The remaining 18 strikes were available to be used during the 1985 season. Of these 18 strikes, 16 were used in the spring hunt and 1 was used in the fall hunt. A total of 11 whales were landed. One strike was not used. NMFS enforcement agents were based at Point Hope and Barrow during the spring hunt and at Kaktovik during the fall hunt. See Table 2 for quotas.

Table 2. Annual Quotas and Catch of Bowhead Whales 1978-1985

	Quota[1]		Actual Take		
	Landed	Strikes	Landed	Lost	Strikes
1978	14	20	12	6	18
1979	18	27	12	15	27
1980	18	26	16	18	34
1981[2]	17	32	17	11	28
1982	16	19	8	11	19
1983	18	18	9	9	18
1984	-	27[3]	12	13	25
1985	-	18	11	6	17
1986[4]	-	32			

[1]Quotas were first set for this population in 1978. Since 1982, a landed whale counts against the strike quota. Hunting is to cease when the quota of total strikes including landed whales is reached.

[2]Based on IWC quotas, totals for 1981, 1982, 1983 combined could not exceed 45 landed or 65 struck.

[3]A two-year quota (for 1984-85) not to exceed 43 strikes was put into effect at the July 1983 IWC meeting. A domestic limit of 27 strikes was set for 1984 consistent with the IWC decision. Of these, 25 strikes were used in 1984 allowing a possible total of 18 strikes in 1985.

[4]The strike limit for 1986 (as set at the IWC meeting in 1985) is 26 strikes; however, those strikes not used in 1985 may be added to the 1986 limit so long as the total number of strikes does not exceed 32. Because the total number of whales which could be struck in 1985 was raised from 18 to 26 at the 1985 IWC meeting, and because only 17 whales were struck in 1985, the full 32 strikes will be available in 1986.

Although NMFS is the Federal agency with primary responsiblity for bowhead whales, several other agencies including the State of Alaska, the Alaska Eskimo Whaling Commission, the North Slope Borough, and the Minerals Management Service, are concerned with their protection. Each year, NMFS' Alaska Region staff participates in monitoring the fall bowhead migration as the animals pass through areas of oil activity in the Beaufort Sea. Additional studies of population size and recruitment, seasonal distribution and migration, and behavior relative to the availability of food or human disturbance, are carried out by NMFS, its National Marine Mammal Laboratory, and the North Slope Borough (Alaska).

Humpback Whales in the Pacific Ocean

"Humphrey", the Humpback Whale. On October 11, 1985, a 40 foot humpback whale entered San Francisco Bay. During the next eight days, the whale's position was monitored and numerous techniques were employed in an unsuccessful attempt to herd the whale out to sea. During this period, the whale which came to be called "Humphrey" traveled up the Sacramento River, crossed under several bridges and became trapped in Shag Slough, approximately 50 miles from San Francisco Bay. On October 19, NMFS decided rescue attempts were likely adding to the animal's confusion and implemented a 6-day moratorium on further rescue attempts. After consulting with whale behaviorists, and marine mammal veterinarians, NMFS began a renewed rescue attempt employing a Japanese dolphin driving technique called "Oikomi" to herd the whale. Several unsuccessful attempts were made to radio tag the whale. Although the whale was successfully moved out of Shag Slough and downwater during the daytime, it would retrace its movements during the night. On October 31, NMFS with the cooperation of the California State Legislature's Scientific and Technical Committee held an international teleconference to assess the situation and to discuss alternatives for saving this whale. Based on results of this conference, NMFS resumed the drive of the whale on November 3 using a combination of stimuli. With the assistance of the Navy and numerous private volunteer vessels, the whale was lured downriver by playing humpback whale feeding sounds under water. The drive continued the next day using the feeding sounds in front and the "Oikomi" pipe sounds behind the whale. At 4:56 p.m. on November 4, "Humphrey" passed under the Golden Gate Bridge and out into the Pacific Ocean. The successful rescue of this whale was largely due to the combined efforts of local, county and State law enforcement and wildlife management agencies, the Coast Guard,

the Navy, the State Legislature, many volunteers of the California Marine Mammal Center, and other individuals.

Humpback Whales in Hawaii. Most of the North Pacific populations of humpback whales winter in the waters around the main islands of Hawaii. Our primary concern for this species while it is around these islands is related to whale watching activities. For the sixth year, the Southwest Region has issued a "Notice of Interpretation" which explains that certain whale watching activities are considered "taking by harassment". This "taking" is illegal under the provisions of the MMPA. NMFS' enforcement program includes monitoring both whale watching and research activities. A study funded in part by NMFS found that humpback whales avoid vessels. As a result of these studies and the monitoring programs, NMFS determined that a lack of compliance with the notice of interpretation may be a contributing factor to a change in humpback whale distribution in Hawaiian waters. To reduce the level of disturbance experienced by humpback whales from vessel traffic, NMFS will propose regulations to govern approaching humpback whales in Hawaii.

As part of the management program for humpback whales, the Region conducted consultations under Section 7 of the Endangered Species Act. Federal projects were reviewed and recommendations made to ensure that associated activities would not jeopardize the continued existence of humpback whales.

Humpback Whales in Alaska. The Northern Pacific population of humpback whales is estimated at 1,200 animals. A portion of these (270-372 whales) spend the summer in Southeast Alaska. Prior to 1978, about 24 of these whales entered Glacier Bay National Park and Preserve to feed for a substantial part of the summer. In 1978, the whales abruptly departed soon after entering the Bay and most did not return. It was thought that the large increase in vessel traffic might have forced the whales to abandon the Bay. In 1980, in consultation with NMFS, the National Park Service established regulations to restrict the vessel traffic to 1976 levels. In 1981, Congress appropriated special funds to the National Park Service to address the problem, and the Service contracted some of the studies to NMFS. Results of this research indicate that humpback whales in Glacier Bay may react to vessel sounds from as far as five miles away; however, the number of whales using the Bay appears to be primarily related to the density of food sought by the whales. Because humpback whales have continued to frequent the Bay, the National Park Service allowed an increase in vessel traffic of 12 to 14 percent over the 1976 level.

Whales in the Western North Atlantic Ocean

NMFS' Northeast Region has published a brochure "Whales of the Gulf of Maine" which describes the endangered whale species that occur in New England, their habitat, and the laws that protect them. It also includes guidelines to help vessel operators (commercial and recreational) avoid harassing whales. These guidelines were developed in coordination with whale watch industry representatives, scientists, NMFS law enforcement agents, and environmental organizations. The brochure has been distributed to whale watch vessel operators, recreational boaters, and the public. Humpback whales are "watched" intensely along the New England coast in the summer months.

The Northeast Region participated in two workshops sponsored by the Marine Mammal Commission to develop a management and research plan that addresses the recovery of the severely depleted northwest Atlantic right whale. NMFS worked closely with the New England Aquarium to develop the plan as part of the final report to the Commission.

The Northeast Region and Northeast Fisheries Center met with the Southeast Region and Southeast Fisheries Center to discuss research on large whales. The Southeast Fisheries Center prepared a report that outlines research needs that will ensure coordinated efforts on large whales in both Regions. It addresses issues affecting large whales along the eastern seaboard and how to meet NMFS's responsibilities for the conservation, management, and research of these protected marine mammal stocks.

Research Studies. NMFS, through its Northeast Fisheries Center, has funded several marine mammal studies including the following:

Since 1980, Manomet Bird Observatory has used NMFS research vessels as platforms of opportunity (POP) to gather sea bird, marine mammal, and sea turtle sightings of all species between Nova Scotia and Cape Hatteras, North Carolina. Because their data base is compatible with NMFS; sightings can be correlated with fisheries, plankton and oceanographic data. In spring 1985, observers participated in a research cruise conducted by the Southeast Fisheries Center between Miami, Florida and the Chesapeake Bay. They compared sampling designs with the Center's and increased sighting effort on right whales, particularly for cow/calf pairs. A similar effort is planned for the spring of 1986.

At the Woods Hole Oceanographic Institution, researchers analyzed over 25 years (1957-1982) of observations on the responses of whales to human induced stimuli in the waters around Cape Cod Bay. Results of these analyses indicated that over the past 25 years the reactions of these whales to human activities were as follows: minke whales remained generally uninterested and undisturbed by vessel traffic; finback responses were mixed (sometimes negative, sometimes less so); right whale behavior remained about the same with their responses equally distributed between uninterested and negative; and humpbacks changed from mixed responses to more positive responses.

Researchers at the University of Rhode Island are transferring the Cetacean and Turtle Assessment Program (CETAP) data base to the Center's computer system. The CETAP data base represents one of the most comprehensive informational sources on the distribution and abundance of whales, dolphins and sea turtles off the northeast coast. The CETAP program was run by the University of Rhode Island under contract to the U.S. Department of the Interior.

Beginning in October 1984, researchers at the Provincetown Center conducted tract surveys to document the seasonal distribution and abundance of fin, humpback, and right whales in Cape Cod Bay and Stellwagen Bank. Also oceanographic, behavioral, photographic, and population demographics information was collected. Additionally, in high-use habitats, researchers documented the oceanographic (biological, physical) and geographic characteristics of those regions to identify the mechanisms which attract and maintain groups of whales. These data will be compared to data collected by the Provincetown Center beginning in 1978. This research will continue in 1986.

At the University of Florida, researchers collected humpback whale skin samples using a biopsy dart. Tissue samples were collected during the summer of 1985 in the Gulf of Maine and off Sitka, Alaska, and are being cultured for karyotypic analyses which are to include sex determination according to chromosome complement (XX vs. XY), measures of chromosome variability, and the application of these measures to the problem of stock definition. Geographically isolated populations were sampled to allow a quantitative comparison of chromosome variability between Atlantic and Pacific humpback whale populations. Fluke photographs were taken of all animals sampled and the behavioral responses of the whale to the biopsy dart were documented. A report documenting the methodology and the results of the 1983-1985 studies will be available at the end of 1986.

The College of the Atlantic will continue to collect and maintain North Atlantic humpback fluke photographs to identify individual animals, to study population demographics, and for population estimates. In 1986, emphasis will be placed on fluke photographs collected outside the Gulf of Maine (i.e., Gulf of St. Lawrence, Puerto Rico).

The Southeast Fisheries Center has initiated two research studies concerning large whales. Both studies are in cooperation with the Northeast Fisheries Center and the National Marine Mammal Laboratory. Since development of a time-series data base forms the core of NMFS research on marine mammals, the Center has acquired the equipment necessary to develop a marine mammal data system that allows retrieval of existing data from marine mammal sampling surveys previously conducted so that analyses can be correlated with other fishery resource survey data bases. The three Centers have funded a research study to estimate historical catch levels, early abundance, and distribution of right whales in the western north Atlantic Ocean.

Impacts of Sludge and Toxic Wastes on Whales (New England). The Northeast Region participated in a workshop to discuss scientific information needed by the Environmental Protection Agency (EPA) to develop a site specific monitoring program of ecological impacts of dumping municipal sludges at the 106-mile dumpsite which is 120 nautical miles east of Cape May, New Jersey. The Region discussed the distribution, abundance, and potential impacts to marine mammals and endangered species and recommended procedures and methodologies to be included in EPA's monitoring program.

The Region met with the Corps of Engineers to review the status of the final designation process of the Boston Foul Area and Cape Arundel, Maine as dumpsites for dredged materials. The Region worked with the Corps to ensure that it has the best available information on marine mammals and endangered species to prepare an environmental assessment. NMFS and the Corps coordinated aerial surveys over a 300 square-mile area to gather additional information on the distribution of endangered species in and near the foul area sites. This information will be used to complete the consultation process required by the Endangered Species Act.

VII. MANAGEMENT PROGRAMS AND RESEARCH STUDIES FOR DOLPHINS AND PORPOISE

Bottlenose Dolphin-Atlantic Ocean and Gulf Coast

The popularity of the bottlenose dolphin for public display has resulted in NMFS authorizing its taking only from areas where populations have been assessed and when there are sufficient numbers to allow a take from a specific population.

The Southeast Region coordinates all takings of this species while the Southeast Fisheries Center coordinates all research studies. Takings are regulated under NMFS' permit program for public display.

Following are current annual quotas:

Mississippi Sound	35
Indian/Banana River Complex (Florida	6
Texas Coast-Corpus Christi/Matagorda Bay	17
West Coast of Florida (between Crystal River and Charlotte Harbor, including Tampa Bay)	23
Florida Panhandle (between Crystal River west to Mobile Bay, Alabama	10
TOTAL	91

The number of bottlenose dolphins removed during any calendar year cannot exceed two percent of the minimum population in a specific location.

The Southeast Fisheries Center's research program for bottlenose dolphins includes the following:

- o providing estimates of abundance and recommendations for quotas on live captures in the Southeast Region;
- o determining the dynamics and discreetness of along-shore and inshore-offshore populations of this species; and
- o determining the validity of the live-capture quota guidelines developed by the Marine Mammal Commission.

The Center, which began long-range studies in 1974, expects to complete the data collection phase of the research by October 1986 and will report on the results of the research conducted. Data collection activities still in progress will be incorporated into a stock assessment report by October 1987.

Bottlenose Dolphin-California

Scientists at the Southwest Fisheries Center conducted age and growth studies and supported a San Diego State University study of movement of bottlenose dolphins in the nearshore waters off San Diego County. The growth studies showed that growth layers on bottlenose teeth are similar in both captive and wild animals of known-age. Apparently, environmental factors, whether in the wild or in captivity, do not measurably alter the patterns of deposit rates in the dentinal layers.

Harbor Porpoise-West Coast

The Southwest Fisheries Center organized a cooperative harbor porpoise survey in 1985 using the NOAA vessel, DAVID STARR JORDON, and State-owned (California) aircraft. The JORDAN operated one to two miles from the coast searching from Point Conception, California to the Oregon-Washington border. The aircraft operated closer to shore surveying much of the same area as the JORDAN. A total of 275 groups of harbor porpoise were seen from the JORDAN. The density of animals was almost constant out to 30 fathoms, decreased markedly from 30 to 50 fathoms, and none were seen along the 100-fathom isobath. During seven days of aerial surveys, 146 sightings of harbor porpoise were made.

A network of about 30 individuals and institutions in California has been established to recover harbor porpoise carcasses from the gillnet fishery and from strandings (most are probably related to gillnet mortalities). Carcasses are used for biological studies.

Center scientists are cooperating in an analysis of stock separation using DDE, PCB and other contaminants levels in samples of blubber from animals in different areas along the west coast.

The California Department of Fish and Game completed a report for NMFS on the incidental take of harbor porpoise in California fisheries. Based on an analysis of observed reports of mortality and estimates of fishing effort, mortality of harbor porpoise in halibut set net fisheries offshore central California was estimated to be close to 300 during the 1983-84 fishing season.

Hawaiian monk seal pup in "headstart" pen, Kure Island. Photo by John Henderson, Honolulu Laboratory, Southwest Fisheries Center, NMFS.

VIII. MANAGEMENT PROGRAMS AND RESEARCH STUDIES FOR SEALS AND SEA LIONS

Seals

Hawaiian Monk Seal. Under provisions of the Endangered Species Act, the Southwest Region is implementing a Recovery Plan for the monk seal. On April 30, 1986, NMFS published regulations that designated as critical habitat all beach areas, lagoon waters, and ocean waters out to a depth of 10 fathoms around Kure Atoll, Midway Islands (except Sand Island and its harbor), Pearl and Hermes Reef, Lisianski Island, Laysan Island, French Frigate Shoals, Gardner Pinnacles, Necker Island, and Nihoa Island. The final environmental impact statement concerning critical habitat and the final rule designating critical habitat are available from the Southwest Region.

The Region's Western Pacific Program Office in Hawaii conducts consultations under Section 7 of the ESA to ensure that Federal projects and any associated activities are not jeopardizing the continued existence of Hawaiian monk seals.

The Southwest Fisheries Center's Honolulu Laboratory completed the first total population estimate for the Hawaiian monk seal. The average haul-out fractions for the various size and sex classes were calculated using beach counts of seals at Lisianski and Laysan Islands where the island populations were known by marking methods. These haul-out fractions were then used to convert the average beach counts at all islands to an estimate of absolute population size for the year 1983. The total estimate for 1983 was 1,325 plus 162 pups born for a total of 1,488 with a 95 percent confidence interval from 1,417 to 1,559. Half of the total population is at French Frigate Shoals and over half of the births occur there.

During 1985, censuses were made and pups were tagged at the five main breeding locations in the Northwestern Hawaiian Islands. Births at Lisianski Island appear to be declining. Based on tag resights of 1984 pups during the 1985 season, survivorship at French Frigate Shoals, at 80 percent, is significantly lower than all other locations.

Three female monk seals, collected as underdeveloped pups at French Frigate Shoals in 1984, were released at Kure Atoll as plump yearlings following about one year in captivity and completion of a screening program to ensure they carried no detectable diseases or genetic problems. When field personnel left Kure three months after the seals' release, they were still being resighted regularly. Two more small female pups were

collected at French Frigate Shoals in 1985 and are being held for release at Kure in 1986.

Three female pups were born at Kure Atoll in 1985 and were maintained from weaning through the summer in a "headstart" beach enclosure. These pups, along with 9 of 10 females in the "headstart" project from the previous years were resighted at the end of the season.

Data on adult male behavior were collected at Laysan Island. Analysis of these data may provide insight into the social structure of adult males, particularly as it relates to mass attacks, or mobbings, by adult males on other seals. Of the nine adult males moved to Johnston Atoll from Laysan Island in 1984 to keep them from attacking adult female and other seals, no more than two appear to have remained there, and none of the males have returned to the main breeding islands.

Field personnel continued to sample all beach debris capable of entangling monk seals and to destroy all material which may cause entanglement. Observed entanglement incidents have been much less frequent since this practice was started.

Guadalupe Fur Seal. NMFS published a final rule December 16, 1985 listing the Guadalupe fur seal as threatened under the Endangered Species Act. Once thought to be extinct, the Guadalupe fur seal population was estimated in 1984 to number about 1,500 to 2,000 animals with an annual production of approximately 200 pups. Although the primary breeding colony is on Isla de Guadalupe, Mexico, sightings of adult and juvenile seals on some of the Channel Islands off southern California suggest the possibility that recolonization of that area may occur in the future.

Northern Fur Seal-Alaska. Under 1983 amendments to the Fur Seal Act (FSA), the Federal Government has been relieved of many responsibilities in the Pribilof Islands. However, NMFS continues to be responsible for administration of seal rookeries and research activities conducted under the MMPA and FSA. The United States Senate has not ratified the 1984 protocol extending the Interim Convention on Conservation of North Pacific Fur Seals. Consequently, there was not a commercial harvest in 1985. However, to ensure that the dietary requirements of Pribilof Island residents would be met, and that the fur seal population would be protected, NMFS provided interim regulations under domestic law for a subsistence harvest of fur seals on St. Paul and St. George Islands. During the 15-day harvest in 1985, 3,384 seals were taken on St. Paul Island and 329 seals were taken on St. George Island. Most were 2-to-5-year old males.

Biological information collected by the National Marine Mammal Laboratory on fur seals of the Pribilof Islands included determining the age of fur seals harvested, the number of adult males on the rookeries and hauling grounds, and the number of pups and older seals that died on the rookeries and adjacent beaches. In 1985, approximately 182,200 pups were born on St. Paul Island, and 28,869 on St. George. During the first few months of life, less than 3 percent of the pups died on both islands.

Behavioral research continued to emphasize key parameters associated with changes in adult sex ratio. Diving and location of feeding were studied on both islands. It was verified that seals travel to distinct areas to feed. Some animals feed in deep water off the outer continental shelf while others feed over the shelf. Marked animals were found up to 200 miles from their rookeries. The diving of males was studied on St. George with a new time-depth-recorder using computer circuitry.

Entanglement of Northern Fur Seals. Since entanglement with discarded fishing nets and other debris may be one of the reasons responsible for the declining population of the northern fur seal, NMFS is studying several aspects of this problem. One study focused on the length of feeding cycles of entangled females. Other studies involved surveys of rookery areas to determine the entanglement rates of females and pups. Adult females do not appear to exhibit the same entanglement rates as juvenile males. Pups become entangled in the vicinity of the islands even before beginning the pelagic stage of their life cycle. Another study showed that pups become entangled in mesh sizes smaller than observed on subadult males. A study of the occurrence of entangled juvenile males showed rates comparable to past ones. These studies involved a new survey and monitoring process independent of the harvest.

Harbor Seal-Pacific Northwest. The harbor seal is the principal species involved in fisheries interactions in the northwest. It is the only pinniped species that breeds in Washington State waters; Oregon has breeding populations of both harbor seals and northern sea lions. NMFS has provided funding to Washington and Oregon to assess harbor seal populations. These assessments indicate harbor seal populations have increased more than 10 percent annually in Washington since 1976 and about 7 percent annually in Oregon since 1977. The harbor seal population in the Northwest is estimated at 17,000 to 19,000 seals. Research indicates that the seals on the outer coast and estuaries are a regional population migrating between coastal areas in southern Washington and northern Oregon seasonally. It is not known if seals from coastal areas move into the inland waters of Washington (Puget Sound) where the harbor seal population is estimated at 6,000 to 7,000 animals.

Harbor Seal-California. Under a contract from NMFS, the California Department of Fish and Game surveyed the California coast and offshore islands to census harbor seals. Since previous studies indicate that the greatest number of harbor seals are observed during the June molting season, the survey was conducted at that time. Counts from photographs were verified by comparison with counts made by shore-based observers stationed at haul-outs along the coast. The 1985 count was 12,254 animals, about the same as counts made in each of the past three years.

Harbor Seal-New England. Under a contract from NMFS, researchers at the University of Maine continued to document the number, seasonality, and population characteristics of harbor seals as well as harbor porpoise incidentally taken in New England groundfish gillnets. Fishermen send a form listing their take of these species to the University, and carcasses from incidentally taken marine mammals are brought to shore for necropsy by University personnel.

In December 1985, researchers began aerial surveys along the Maine coast to obtain population, recruitment, and distributional information on harbor seals. The methodology will be comparable to the first Maine coast survey conducted in 1972. Results obtained from the current research will be used to document harbor seal population and recruitment rates.

Northern Elephant Seal-California. The Southwest Fisheries Center conducted research on northern elephant seals at San Clemente and Santa Barbara Islands, at San Nicolas Island (in cooperation with Hubbs-Sea World Research Institute), and at San Miguel Island (in cooperation with Hubbs and NMML). Additional work was conducted at the Farallon Islands through a contract to the Point Reyes Bird Observatory.

At each of the rookeries, pup counts were made in February and March to monitor changes in population levels. At San Miguel Island, aerial photography is being used to monitor harem structure and to estimate pup mortality. Also, animals were tagged to determine movements and estimate various life history parameters. Almost 1,700 pups were tagged at the four major southern California rookeries. Researchers collected stomach contents of elephant seals on San Miguel Island for a food habits study. Out of a world population of 100,000 animals, about 30,000 inhabit San Miguel Island during the breeding season.

Sea Lions

California Sea Lion-California Coast. About 74,000 sea lions inhabit the Southern California Bight. During their breeding season from mid-May to the end of July, about 30,000 sea lions haul out on San Miguel, one of the Northern Channel Islands. In June, July and August, the Southwest Center with the cooperation of the California Department of Fish and Game and the Channel Islands National Park, counted sea lion pups at three major rookeries. In September, 581 pups were sexed, tagged, and weighed, and scat samples collected to analyze food habits. At San Miguel Island, radio transmitting tags were attached to 25 California sea lions and 25 northern fur seals by NMML and SWC researchers to investigate location of feeding grounds and feeding behavior.

A coordination meeting among California sea lion investigators, San Nicolas Island resource managers, and NMFS personnel was held to ensure that project activities would not adversely affect the status of populations and were compatible with requirements of the agency having site jurisdiction. Information concerning various population parameters and frequency of disturbance was obtained from investigators.

California Sea Lion-Northwest Coast. The number of California sea lions in northwest waters has been increasing each year coincident with the increased breeding population in southern California and northward range expansion of this species. Most, if not all, of the California sea lions in the northwest are primarily sub-adult males who migrate north each year after the breeding season. The numbers of California sea lions in Oregon peak in early September as the animals move north. Noticeable numbers of California sea lions begin appearing in Washington in late November and many of them remain in inland waters (Puget Sound) until May when they migrate south again. Others migrate further north to British Columbia where over 4,000 animals have been counted in recent years. It is difficult to count the sea lions in Puget Sound because they spend most of their time in the water. However, at one location where they haul-out on an abandoned barge near the city of Everett, counts of over 500 have been documented. The numbers of sea lions hauling-out on this barge have increased from negligible numbers in 1978 to about 100 in 1979 to a recent peak count of over 500 animals in April of 1985. Such an increase is likely indicative of the overall increase in California sea lions migrating north. It is likely that 1,000 to 2,000 sea lions pass through or remain in Washington State waters each winter/spring. The occurrence of California sea lions in the State of Washington is a relatively new development as sightings of this

A California sea lion offshore Santa Barbara Island, Calif.
Photo by Dana J. Seagars, Southwest Region, NMFS.

species prior to 1970 were rare, and the first documented sighting was in 1950 on the outer coast.

This increasing occurrence of sea lions in the Northwest has resulted in increased human interaction (including fishery interaction) problems. Sea lions are appearing in areas where pinnipeds were previously unheard of such as the entrance to fishways and boat docks in heavily populated areas where confrontations and conflicts occur. In addition to sea lions preying on fish at entrances to fishways, problems are being reported of sea lions eating salmon at pen facilities in inland waters. The California sea lion is the principal species involved in conflicts with salmonid and bottomfish troll fisheries where the animals follow the vessels "stealing" the catch sometimes with gear attached. They are second to the harbor seal in conflicts with salmon gillnet fisheries.

Northern Sea Lion-Alaska. During the late 1950's and early 1960's, the northern sea lion population in the eastern Aleutian Islands was estimated to be 50,000 animals. Aerial surveys during 1975-77 showed a decline of over 50 percent with an estimate of 21,000 animals. Similar surveys in 1984 resulted in an estimate of only 12,000 adult sea lions.

Because of the apparent continuing decline in sea lion numbers in the eastern Aleutian Islands, an aerial survey was conducted during 1985 to determine the extent of the decline throughout the principal parts of the sea lion range in Alaska. The results from this survey, which extended from the eastern Gulf of Alaska to Kiska Island in the central Aleutian Islands, accounted for only about 68,000 animals. The 68,000 animals is about one-half the population level reported 20 years ago.

The decline appears to be continuing in the eastern Aleutian Islands, and is spreading into the western and central Gulf of Alaska. Counts by Alaska Department of Game biologists indicate that the number of pups in those areas is also declining. Recently, declines have also been reported by Soviet scientists for parts of the Kuril Islands and other parts of the sea lion's range in the western Pacific Ocean.

Research by National Marine Mammal Laboratory (NMML) biologists to identify the causes of the decline have ruled out the likelihood that emigration is the cause. Entanglement may be implicated in the decline but results from research during 1985 show that the incidence of entanglement in adults is too low to account for the decline; there are inadequate data to determine the effect of entanglement on juvenile sea lions. Mortality due to incidental capture in commercial fishing nets is probably not the main reason for the decline either. However, NMML will

continue to monitor the level of incidental catch and to determine its possible role in the decline. NMML biologists will concentrate their research over the next 2 to 3 years on the possible role of disease, degradation of habitat, and availability and quality of food on the decline in sea lion numbers. NMFS estimates that the total world population is 120,000 to 130,000 with 100,000 to 125,000 in Alaska.

IX. INTERNATIONAL PROGRAMS AND ACTIVITIES

The Department of Commerce furthers the protection and conservation of marine mammals under existing international agreements and takes the initiative necessary to negotiate additional agreements required to achieve the purposes of the Act. To carry out this intent, the National Marine Fisheries Service participates in many international programs and activities.

International Whaling Commission (IWC)

1985 IWC Meeting. The United States substantially achieved its primary objectives to continue efforts in the IWC to ensure implementation of the moratorium decision on schedule and to seek a bowhead whale strike quota consistent with the IWC's aboriginal/subsistence whaling management scheme.

IWC Moratorium Decision. The Commission did not amend the moratorium decision or take any action to modify its substance. This was the first year that the commercial whaling nations spoke and acted as though commercial whaling would end. While some delegations alluded to a temporary stop to commercial whaling, the acknowledgement of an end to whaling was viewed as a positive and constructive step.

The Government of the Soviet Union noted that it would temporarily stop commercial whaling for the 1987-1988 Antarctic whaling season for technical reasons. In a separate action, the Norwegian Delegation announced withdrawal of its government's objection to the ban on using cold grenade (non-exploding) harpoons to kill minke whales.

The U.S.S.R., Japan, and Norway had exercised their rights under the Convention and filed an objection to the moratorium which removed any technical obligation under international law for these countries to comply. Lengthy discussions between the United States and Japan followed Japan's filing of objections to both the commercial whaling moratorium and the 1984-85 sperm whale ban. On November 13, 1984, the United States entered into an agreement with Japan designed to end all Japanese whaling no later than 1988.

On December 11, 1984, the Government of Japan withdrew its objection to the IWC sperm whaling prohibition, effective

April 1, 1988. The Secretary then confirmed an earlier commitment that due to the withdrawal of the objection, he would not certify Japan under the Pelly or Packwood-Magnuson Amendments for harvesting 400 sperm whales during each of the 1984 and 1985 seasons. The second provision outlined in the agreement was Japan's withdrawal of its objection to the moratorium by April 1, 1985, effective April 1, 1988. On April 5, 1985, in a letter to the Secretary of Commerce, Japan said it would withdraw its objection to the moratorium within 5 days if a decision by the U.S. Court system upholds the agreement.

This agreement between the United States and Japan was challenged by several environmental groups (see Legal Actions) and the issue has since been appealed by the U.S. Government to the Supreme Court.

Aboriginal Whaling. In 1982, after years of intensive work, the IWC adopted management principles and procedures to govern aboriginal/subsistence whaling. They formally recognized in a separate management scheme the distinction between commercial and aboriginal/subsistence whaling. The scheme codified the IWC's attempt to balance the needs of aboriginal people who depend on limited whaling to meet subsistence, cultural, and nutritional needs and the conservation needs of the affected whales. It requires that hunting be managed to provide for the recovery of depleted whale populations.

The Technical Committee of the IWC and the Aboriginal/ Subsistence Whaling Subcommittee met before the 1985 Annual Meeting and considered reports from Denmark and the United States on whale catches required to meet nutritional, subsistence and cultural needs. The Soviet Delegation reported that studies were continuing on the specific uses of whale products by the Soviet aboriginal population and documentation would be submitted at next year's meeting. The Delegation from Japan stated that it will submit a paper to the Aboriginal/Subsistence Subcommittee on the coastal whaling around Japan which, it said, has similar characteristics to aboriginal/subsistence whaling. Japan requested the advice and cooperation of the other members of the Commission in evaluating this material.

The Commission agreed to the Technical Committee's recommendation that a small working group should examine the methods used by the U.S. to calculate the aboriginal/subsistence need for bowhead whales. The Scientific Committee reported an increased estimate of the current bowhead whale population size of 4,417 (range 2,613-6,221). Since no new information was available on the natural mortality rate or the annual net recruitment, the Scientific Committee recommended that any catch limits be set with caution. The Commission adopted a 3-year

strike quota for bowhead whales that allows 26 strikes for each of the years 1985, 1986, and 1987; however, strikes not used in any one year may be transferred to the subsequent year provided that no more than 32 whales are struck in any one year. This figure will be reviewed and, if necessary, amended on the basis of the advice of the Scientific Committee.

The Commission also set the following aboriginal catch limits for 1985.

West Greenland minke	130, with total catch not to exceed 220 in 1986 and 1987
West Greenland fin	10
West Greenland humpback	0
Eastern Pacific gray	179

Comprehensive Assessment. A scientific meeting will be held to identify specific tasks, assign priorities, and establish a timetable for undertaking a comprehensive assessment of whale stocks. This will be followed by a meeting of the joint working group of the Scientific and Technical Committees.

Scientific Permits. The Scientific Committee developed guidelines to cover information on status of stocks, comments on methodology, the likelihood of achieving the stated objectives, participation by scientists from other nations, and the possible effect on conservation of the stock.

The Scientific Committee reviewed a research program proposed by Iceland, but addressed only those aspects of the program related to the scientific catch of minke, fin, and sei whales. Comments were provided although there was no agreement on the extent to which the proposal satisfied the guidelines or whether it was appropriate for the Scientific Committee to provide advice to the Government of Iceland other than commenting in accordance with the guidelines.

A scientific permit proposal by the Republic of Korea for the Sea of Japan--Yellow Sea--East China Sea stock of minke whales was found not to fulfill adequately the information required.

The Commission adopted a resolution dealing with scientific permits that establishes a working group to study a proposal by Sweden that further defines the parameters by which scientific permits should be issued and recommends actions to be taken by Contracting Governments concerning issuing permits and conducting trade in products from whales taken under scientific permits.

Commercial Catch Limits. Catch limits for commercially exploited stocks were set at zero for the 1986 coastal and the 1985-86 pelagic seasons as a result of the 1982 moratorium decision. The Scientific Committee did conduct stock assessments in the normal way to provide management advice with special priority to stocks where there is the likelihood of continued exploitation.

The following stocks were reclassified as Protection Stocks from unclassified:

Northeastern Atlantic - Minke

North Pacific-Sea of Japan/Yellow Sea/East China Sea
- Minke

North Pacific-East China Sea
- Bryde's

The Commission also decided that the Western Division, North Pacific sperm whale stock should be classified as a Protection Stock starting with the 1988 season. This decision may be brought into effect earlier based on the advice of the Scientific Committee.

Inter-American Tropical Tuna Commission (IATTC)

The Commission's responsibilities were broadened in 1976 to address the problems caused by the incidental take of porpoise in the purse seine fishery for yellowfin tuna in the eastern Pacific Ocean. The Commission's tuna-porpoise program was created to study (1) population assessment including the estimation of porpoise abundance, incidental mortality rates, and other life history parameters; (2) methods of reducing porpoise mortality including the development of new or improved fishing technology and the study of porpoise behavior; and (3) studies of interactions between porpoise and tunas.

An important objective was to obtain statistically reliable estimates of porpoise mortality from data collected by scientific technicians aboard purse seiners of cooperating nations which fish in the eastern Pacific.

Total coverage of the international fleet (by the IATTC observer program for the international fleet and the U.S. observer program for the U.S. fleet) increased from 13 percent in 1984 to about 36 percent in the first half of 1986. Cooperating nations include Ecuador, Mexico, Panama, the United States and Venezuela.

The United Nations Environment Programme granted partial funding for a project to intensify IATTC activities in Latin American ports. In 1985, this program consisted of trips to Panama, Cumana, and Guayaquil to promote the use of porpoise saving procedures, conduct interviews with skippers and crewmen, present seminars for scientists and industry representatives, and distribute educational and audio-visual materials. In 1986, students and scientists of Latin American countries will be invited to participate in courses on assessment and biology and ecology of marine mammals which will be taught by IATTC staff.

A new method has been developed to estimate the mortality of porpoise by using powerful and computer-intensive statistical techniques. In general, the total mortality of porpoise is estimated by (1) multiplying an estimate of the kill per set on porpoise associated with tunas by the total number of such sets or (2) multiplying an estimate of the kill per ton by total tonnage of yellowfin and skipjack tuna caught in porpoise-associated schools. The estimated kill per set and kill per ton are derived from data collected by IATTC technicians and NMFS observers.

The porpoise mortality estimate for both domestic and foreign fisheries in 1984, based on kill per ton data, was 40,747 animals. The mortalities for 1984 for most species were somewhat higher than those of the past few years. This is partly due to greater fishing effort in the eastern Pacific after recovery from the El Nino conditions of 1982-83 and a shift in concentration of effort to yellowfin tuna associated with porpoise since this tuna was bringing higher prices than skipjack and small yellowfin tunas.

International North Pacific Fisheries Commission (INPFC)

The United States and Japan signed a Memorandum of Understanding (MOU) on marine mammals in 1984 which will remain in effect until June 1987. As with two previous MOUs, the agreement provides for cooperative research on Dall's porpoise and other marine mammals incidentally caught in the Japanese high-seas salmon fisheries. The general permit also limits the total take of Dall's porpoise by the mothership fishery in the U.S. exclusive economic zone (EEZ) to 5,500 individuals. The MOUs were developed in connection with the International Convention for the High Seas Fisheries of the North Pacific Ocean.

At the 1985 Annual Meeting of the INPFC, the scientific subcommittee on marine mammals and U.S. and Japanese scientists presented 19 documents which included studies on marine mammals incidentally caught in the high-seas salmon fishery, gear modification experiments, acoustic studies, estimation of abundance of Dall's porpoise, and the biology and behavior of Dall's porpoise. Based on observations in the Japanese mothership salmon fishery, U.S. scientists estimated that in 1985 this fishery incidentally caught 2,760 Dall's porpoise in the U.S. EEZ and 3,239 porpoise in all areas of its operations.

North Pacific Fur Seal Commission (NPFSC)

Representatives of the United States, Japan, and the Soviet Union met in Tokyo, Japan, in April 1985, to review scientific data and to discuss measures related to the conservation, protection and effective use of northern fur seals. The meeting was preceded by a meeting and workshop of the Committee of Scientists which reviewed data on the status of the northern fur seal population and the possible reasons for its continued decline on the Pribilof Islands. The Committee reaffirmed its findings that the commercial harvest is not related to the current population decline. The Committee recognized that entanglement of fur seals in discarded net pieces and other marine debris is a significant problem. The Committee also concluded that the reasons for changes in the fur seal population are complex and probably involve a number of factors requiring further research.

On October 12, 1984, the four Party Governments signed the 1984 Protocol Amending the North Pacific Fur Seal Convention and a Statement of Concerns which is attached to the Protocol. The Protocol extends the Convention for four years until 1988. The Statement notes concerns of the Party Governments over several issues, especially the recent decline of the fur seals. The United States is the only Government that has not ratified the Protocol. Since the United States has not ratified the Protocol, it was precluded by domestic law from conducting or allowing a commercial harvest. The United States issued emergency domestic regulations which allowed for a subsistence harvest on the Pribilof Islands.

US-USSR Marine Mammal Project, Environmental Protection Agreement

This project promotes joint research and exchange of information by U.S. and Soviet scientists on the biology, ecology and population dynamics of marine mammals of concern to both countries. In 1985, joint research and exchange visits included a walrus-ice seal cruise to the Bering Sea and field studies on sea lions in the northern Gulf of Alaska.

The second part of the walrus-ice seal cruise took place on board a Soviet sealer/trawler throughout the central and western Bering Sea during March and April. Research included obtaining blood samples, specimens for virology and other disease studies, reproductive tracts for pregnancy rates and teeth for ageing studies. A total of 175 walrus, 8 bearded seals, 2 ringed seals, 8 ribbon seals, 22 harbor seals and 21 sea lions were taken during this part of the cruise.

In July 1985, two Soviet pinniped biologists visited the United States to take part in sea lion population assessment studies on Marmot Island, Alaska. Work focused on daily censusing, and discussions were held on the reasons for an overall decline in sea lion numbers since 1975.

In November, the Environmental Agreement Executive Committee met for the first time since 1979 to review work carried out during 1980-85, and to plan future cooperative studies. Several projects were agreed upon for 1986 and 1987.

X. LEGAL ACTIONS

American Cetacean Society v. Baldrige, 768 F.2d 426 (D.C. Cir. 1985), S.Ct. Nos. 85-954/85-955. In 1984, the American Cetacean Society (ACS) and other organizations brought an action in U.S. District Court in the District of Columbia to restrain Secretary of Commerce Baldrige and Secretary of State Shultz from agreeing not to certify Japan for certain whaling activities which exceed International Whaling Commission (IWC) quotas. Under an agreement with Japan, the United States would not certify Japan under the Pelly Amendment to the Fishermen's Protective Act or the Packwood-Magnuson Amendment to the Magnuson Fishery Conservation and Management Act if, by December 13, 1984, Japan withdrew its objection to the IWC's zero quota for sperm whales effective on or before April 1, 1988, and if, by April 1, 1985, Japan withdrew its objection to the IWC commercial whaling moratorium effective at the close of the 1987 whaling season.

The plaintiffs prevailed in district court and the case was appealed. On August 6, 1985, the Court of Appeals for the District of Columbia Circuit upheld the district court's decision and ruled that the Secretary of Commerce has a nondiscretionary duty to certify a foreign country whose nationals are harvesting whales in excess of IWC quotas. After the Court of Appeals denied motions for rehearing and rehearing en banc, the United States and the Japan Whaling Association filed petitions for review in the U.S. Supreme Court.

On January 13, 1986, the Supreme Court granted the petitions for review. Oral argument was heard on April 30, 1986. The United States contends that some discretion is provided the Secretary in evaluating what activities diminish the effectiveness of the IWC quotas. If so, it is reasonable for the Secretary to find that the limited extension of whaling provided to Japan does not diminish the effectiveness in light of the guarantee that Japan will cease all commercial whaling by 1988.

Jones v. Gordon, Civ. No. J84-011 (D. Alaska); Nos. 85-3729 and 85-3767 (9th Cir.). The Sierra Club, Greenpeace, other environmental groups, and the State of Alaska challenged the issuance by NMFS of a permit to Sea World, Inc. for scientific research on up to 100 killer whales and permanent retention of up to 10 killer whales for public display and captive breeding. The plaintiffs alleged that NMFS failed to comply with the National Environmental Policy Act (NEPA) because it had not prepared an Environmental Impact Statement (EIS) or an Environmental Assessment.

In January 1985, the district court found that the NEPA claims do not have to be filed within a certain time and that NMFS had violated NEPA. It declared the permit invalid. The United States and Sea World, Inc., who had intervened in the lawsuit, appealed to the U.S. Court of Appeals for the Ninth Circuit. In the appeal brief, the United States argued that the lawsuit should have been dismissed for plaintiffs' failure to file a complaint within 60 days of the issuance of the permit, as required by Section 104(d)(6) of the MMPA. In addition, it argued that the review of the Sea World permit application was a categorically exempt action for which an EIS is not required. Oral argument was heard by the Ninth Circuit on February 13, 1986. A decision has not been issued.

Greenpeace International, Inc. v. Baldrige, Civ. No. 86-0129 (D. Hawaii). On February 20, 1986, Greenpeace and the Sierra Club filed suit challenging NMFS's failure to designate within one year from proposed rulemaking critical habitat for Hawaiian monk seals. The 1-year limit is imposed by the Endangered Species Act (ESA), but the lawsuit was brought under both the ESA and MMPA since the species has been declared as depleted under the MMPA.

In 1983, NMFS approved a Recovery Plan for the Hawaiian Monk Seal that included the suggestion to designate critical habitat up to the 20-fathom isobath around monk seal haul-out islands. Plaintiffs claim that the MMPA imposes a duty on the Federal Government to protect the monk seal's habitat, and, by refusing to designate critical habitat as recommended by the Recovery Plan, defendants have violated Section 2 of the MMPA (16 U.S.C. §1361(2)). In addition, plaintiffs claim that Section 202 of the MMPA (16 U.S.C. §1402(d)) has been violated because when NMFS did not follow the Marine Mammal Commission's recommendation of designating critical habitat to a distance of three miles from each island used for breeding and pupping, it failed to provide the Commission with a detailed explanation of why the recommendation was not adopted.

Plaintiffs seek an injuction to order NMFS to designate critical habitat around all islands used by the monk seals up to a surrounding depth of 20 fathoms. On April 25, 1986, NMFS designated critical habitat for the Hawaiian monk seal to a depth of 10 fathoms around the islands. This follows NMFS' recommendation in its December 1984 Supplemental Environmental Impact Statement on the Proposed Designation of Critical Habitat for the Hawaiian Monk Seal which provided for critical habitat to a depth of 10 fathoms. NMFS filed its answer to the lawsuit on April 25, 1986.

Katelnikoff v. U.S. Department of Interior, Civ. No. A85-336 (D. Alaska). An Alaskan Native who makes teddy bears and other items from sea otter fur brought suit against the Departments of Interior and Commerce for the return of items seized by the U.S. Fish and Wildlife Service (FWS) and sought an injunction against both departments from interfering with her manufacture and sale of "authentic Native articles of handicraft." The plaintiff challenges FWS's regulatory definition of "authentic Native articles of handicraft and clothing." Under that definition, handicraft articles must have been "commonly produced on or before December 21, 1972" in order to fall within the MMPA's Native take exemption. Plaintiff's handicrafted sea otter articles (including fur flowers and pillows) were seized on the basis that such items were not commonly produced by Alaska Natives on December 21, 1972.

The Department of Commerce/NMFS, moved to be dismissed from the case and on January 2, 1986, the district court granted that request. The lawsuit is still proceeding against the FWS.

Other Actions. In August 1985, NOAA brought a forfeiture action against a fishing vessel for stabbing dolphins in the course of fishing (U.S. v. F/V FIRST LIGHT, Civ. No. 85-0546 (D. R.I.)). The action was brought against the vessel because it was difficult to determine which crewmember had injured the dolphins. The case was settled when the vessel forfeited $3,000 of its posted bond. In addition, NOAA filed an action in Canadian court to collect a civil penalty assessed under the MMPA against a Canadian business, Marine Wonderland and Animal Park. On April 11, 1985, the United States received $5,000 in settlement of the penalty assessed for illegal importation of six bottlenose dolphins.

XI. APPENDIX

Biologists weigh California sea lion pups at San Clemente Island, Calif. Photo by Dana Seagars, Southwest Region, NMFS.

TABLE 1: 1985 GENERAL PERMIT AND SMALL TAKES-COMMERCIAL FISHING INCIDENTAL TAKES-REQUESTS AND AUTHORIZATIONS

FCZ/Applicant/Category		Otariidae						Phocidae				Cetacea		Total	
ATLANTIC OCEAN (Inside U.S. FCZ)		Northern sea lion		Northern fur seal		California sea lion		Harbor seal		Elephant seal					
		(Requested	Authorzied	Requested	Authorized	Requested	Authorized)	(Requested	Authorized	Requested	Authorized)	(Requested	Authorized)	(Requested	Authorized)
Domestic--New England Groundfish Gilinetters--ST		0	0	0	0	0	0	100	50	0	0	250f/	230	350	280
Domestic--Menhaden Purse Seiners	ST	0	0	0	0	0	0	0	0	0	0	50	33	50	33
Japan Deep Sea	I	0	0	0	0	0	0	5	5	0	0	20	15h/	30	20
German Democratic Republic	I	0	0	0	0	0	0	8	8	0	0	10	10g/	18	18
Spain	I	0	0	0	0	0	0	25	5	0	0	15	15g/	40	15
PACIFIC OCEAN (Inside U.S. FCZ)															
Domestic (NPFVO)	I	1,000	1,000	10	10	0	0	10	10	0	0	10	10	1,030	1,030
	III	500	300	5	5	0	0	200	200	0	0	10	10	715	515
	IV	20	20	5	5	0	0	5	5	0	0	0	0	30	30
	V	1,000	750	10	10	0	0	1,800	1,200	0	0	200a/	100	3,010	2,060
Domestic (PCFFA)	I	10	10	5	5	20	20	10	10	10	10	0	0	55	55
	III	0	0	0	0	100	100	25	25	0	0	60	50b/	185	175
	IV	0	0	0	0	15	15	5	5	0	0	0	0	20	20
	V	50	50	10	10	1,700	1,700	700	700	50	50	45	30c/	2,555	2,540
Domestic (Hawaii)		0	0	0	0	0	0	0	0	0	0	H	H	0	0
Japan															
Deepsea	I	90	40	5	5	0	0	20	20	0	0	0	0	115	115
Hokuten	I	45	20	5	5	0	0	5	5	0	0	0	0	55	55
Longline	V	0	0	0	0	0	0	0	0	0	0	H	H	0	0
Salmon	V	25	25	450	450	0	0	0	0	0	0	5,600	5,500d/	6,075	5,975
Republic of Korea	I	100	25	0	5	0	0	100	25	0	0	50	5e/	250	130
Portugal	I	40	40	0	0	0	0	20	20	0	0	20	20e/	80	80
Poland	I	90	35	0	0	0	0	70	15	0	0	55	20e/	215	75
Peoples Republic of China	I	90	35	0	0	0	0	70	35	0	0	55	24	215	94
Totals		3,010 Pacific 0 Atlantic	2,285 Pacific 0 Atlantic	505	520	1,875	1,875	3,050 Pacific 125 Atlantic	2,285 Pacific 68 Atlantic	60	60	6,074 Pacific 345 Atlantic	5,773+ Pacific 303 Atlantic	14,457 Pacific 468 Atlantic	12,798 Pacific 366 Atlantic

NOTES:

a/ Dall's porpoise, harbor porpoise, and beluga whale.

b/ Pilot whales (30), harbor porpoise (0), Dall's porpoise (5), common (5), whitesided (5) and bottlenosed dolphins (5).

c/ Pilot whales (10), harbor porpoise (0), Dall's porpoise (10) and whitesided dolphins (10).

d/ Dall's porpoise.

e/ Except harbor porpoise.

f/ Harbor porpoise.

g/ Total cetacean take by all permit holders fishing in the North Atlantic Ocean may not exceed 622 common dolphins, 711 Atlantic whitesided dolphins, 365 harbor porpoise, 338 Stenella spp., 248 pilot whales, 234 grampus, 172 bottlenose dolphins, and 4 beaked whales.

h/ Pilot whales (5), harbor porpoise (5), and Atlantic whitesided dolphins (5).

H- Harassment Only.

ST- Small Take Exemption.

TABLE 2

COMMON AND SCIENTIFIC NAMES OF MARINE MAMMALS INVOLVED IN SCIENTIFIC RESEARCH/PUBLIC DISPLAY PERMIT APPLICATIONS

CETACEANS

COMMON NAME	SCIENTIFIC NAME
ATLANTIC BOTTLENOSE DOLPHIN	TURSIOPS TRUNCATUS
ATLANTIC SPOTTED DOLPHIN	STENELLA PLAGIODON
ATLANTIC WHITE-SIDED DOLPHIN	LAGENORHYNCHUS ACUTUS
BAIRD'S BEAKED WHALE	BERARDIUS BAIRDII
BLACK RIGHT WHALE, NORTHERN RIGHT	BALAENA GLACIALIS
BLAINVILLE'S BEAKED WHALE	MESOPLODON DENSIROSTRIS
BLUE WHALE	BALAENOPTERA MUSCULUS
BOTTLENOSE DOLPHINS	TURSIOPS SP.
BOTTLENOSE WHALES	HYPEROODON SP.
BOWHEAD WHALE	BALAENA MYSTICETUS
BRYDE'S WHALE	BALAENOPTERA EDENI
COMMERSON'S DOLPHIN	CEPHALORHYNCHUS COMMERSONII
COMMON DOLPHIN	DELPHINUS DELPHIS
CUVIER'S BEAKED WHALE	ZIPHIUS CAVIROSTRIS
DALL'S PORPOISE	PHOCOENOIDES DALLI
DUSKY DOLPHIN	LAGENORHYNCHUS OBSCURUS
DWARF SPERM WHALE	KOGIA SIMUS
FALSE KILLER WHALE	PSEUDORCA CRASSIDENS
FIN WHALE, FINBACK	BALAENOPTERA PHYSALUS
FINLESS PORPOISE	NEOPHOCAENA PHOCAENOIDES
FRANCISCANA	PONTOPORIA BLAINVILLEI
FRASER'S (SARAWAK) DOLPHIN	LAGENODELPHIS HOSEI
GINKGO-TOOTHED BEAKED WHALE	MESOPLODON GINKGODENS
GRAY WHALE	ESCHRICHTIUS ROBUSTUS
GRAY'S BEAKED WHALE	MESOPLODON GRAYI
HARBOR PORPOISE	PHOCOENA PHOCOENA
HEAVISIDE'S DOLPHIN	CEPHALORHYNCHUS HEAVISIDII
HUBBS' BEAKED WHALE	MESOPLODON CARLHUBBSI
HUMPBACK WHALE	MEGAPTERA NOVAEANGLIAE
KILLER WHALE	ORCINUS ORCA
LAGENORHYNCHINE DOLPHINS	LAGENORHYNCHUS SP.
LONG-FINNED PILOT WHALE	GLOBICEPHALA MELAENA
MELON-HEADED WHALE, ELECTRA	PEPONOCEPHALA ELECTRA
MINKE WHALE	BALAENOPTERA ACUTOROSTRATA
NARWHAL	MONODON MONOCEROS
NORTHERN BOTTLENOSE WHALE	HYPEROODON AMPULLATUS
NORTHERN RIGHT WHALE DOLPHIN	LISSODELPHIS BOREALIS
PACIFIC WHITE-SIDED DOLPHIN	LAGENORHYNCHUS OBLIQUIDENS
PILOT WHALES UNSPECIFIED	GLOBICEPHALA SP.
PYGMY KILLER WHALE	FERESA ATTENUATA
PYGMY RIGHT WHALE	CAPEREA MARGINATA
PYGMY SPERM WHALE	KOGIA BREVICEPS
RIGHT WHALES UNSPECIFIED	BALAENA SP.
RISSO'S DOLPHIN, GRAMPUS	GRAMPUS GRISEUS
ROUGH-TOOTHED DOLPHIN	STENO BREDANENSIS

TABLE 2 - continued

COMMON NAME	SCIENTIFIC NAME
SEI WHALE	BALAENOPTERA BOREALIS
SHEPHERD'S BEAKED WHALE	TASMACETUS SHEPHERDI
SHORT-FINNED PILOT WHALE	GLOBICEPHALA MACRORHYNCHUS
SOUTHERN RIGHT WHALE	BALAENA AUSTRALIS
SPERM WHALE	PHYSETER CATODON
SPINNER DOLPHIN	STENELLA LONGIROSTRIS
SPOTTED DOLPHIN	STENELLA ATTENUATA
SPOTTED DOLPHIN	STENELLA FRONTALIS
STENELLINE DOLPHINS	STENELLA SP.
STRAP-TOOTHED WHALE	MESOPLODON LAYARDII
STRIPED DOLPHIN, STREAKER	STENELLA COERULEOALBA
TRUE'S BEAKED WHALE	MESOPLODON MIRUS
UNSPECIFIED BALEEN WHALES	MYSTICETI
UNSPECIFIED CETACEANS	CETACEA
UNSPECIFIED TOOTHED WHALES	ODONTOCETI
VAQUITA, COCHITO	PHOCOENA SINUS
WHITE WHALE, BELUKHA	DELPHINAPTERUS LEUCAS
WHITE-BEAKED DOLPHIN	LAGENORHYNCHUS ALBIROSTRIS

PINNIPEDS/SIRENIANS

AMSTERDAM ISLAND FUR SEAL	ARCTOCEPHALUS TROPICALIS
ARCTOCEPHALINE FUR SEALS	ARCTOCEPHALUS SP.
ATLANTIC HARBOR SEAL	PHOCA VITULINA VITULINA
BAIKAL SEAL	PHOCA SIBIRICA
BEARDED SEAL	ERIGNATHUS BARBATUS
CALIFORNIA SEA LION	ZALOPHUS CALIFORNIANUS
CASPIAN SEAL	PHOCA CASPICA
CRABEATER SEAL	LOBODON CARCINOPHAGUS
DUGONG	DUGONG DUGON
GRAY SEAL	HALICHOERUS GRYPUS
HARBOR SEALS	PHOCA VITULINA
HARP SEAL, GREENLAND SEAL	PHOCA GROENLANDICA
HAWAIIAN MONK SEAL	MONACHUS SCHAUINSLANDI
HOODED SEAL, BLADDERNOSE SEAL	CYSTOPHORA CRISTATA
KERGUELEN FUR SEAL	ARCTOCEPHALUS GAZELLA
LARGHA SEAL, SPOTTED SEAL	PHOCA LARGHA
LEOPARD SEAL	HYDRURGA LEPTONYX
NORTHERN ELEPHANT SEAL	MIROUNGA ANGUSTIROSTRIS
NORTHERN FUR SEAL	CALLORHINUS URSINUS
NORTHERN SEA LION, STELLER SEA LION	EUMETOPIAS JUBATUS
PACIFIC HARBOR SEAL	PHOCA VITULINA RICHARDI
RIBBON SEAL	PHOCA FASCIATA
RINGED SEAL	PHOCA HISPIDA
ROSS SEAL	OMMATOPHOCA ROSSII
SOUTH AFRICAN FUR SEAL	ARCTOCEPHALUS PUSILLUS
SOUTH AMERICAN SEA LION	OTARIA FLAVESCENS
SOUTHERN ELEPHANT SEAL	MIROUNGA LEONINA
UNSPECIFIED MARINE MAMMALS	UNSPECIFIED MARINE MAMMALS
UNSPECIFIED PINNIPEDS	PINNIPEDIA
WALRUS	ODOBENUS ROSMARUS
WEDDELL SEAL	LEPTONYCHOTES WEDDELLI
WEST INDIAN MANATEE	TRICHECHUS MANATUS
WESTERN ATLANTIC HARBOR SEAL	PHOCA VITULINA CONCOLOR

TABLE 3
SYNOPSIS OF PERMIT APPLICATIONS

	AS OF March 31, 1985			April 1, 1985 TO March 31, 1986			
	SCIENTIFIC RESEARCH	PUBLIC DISPLAY	SCIENTIFIC AND PUBLIC DISPLAY	SCIENTIFIC RESEARCH	PUBLIC DISPLAY	SCIENTIFIC AND PUBLIC DISPLAY	AS OF March 31, 1986 CUMULATIVE TOTAL
NO. OF APPLICATIONS SUBMITTED	307	340	14	37	20	0	718
NO. OF ANIMALS REQUESTED(TOTAL)	849,891	2,033	6,434	58,542	84	0	916,984
OF THESE:							
TAKEN BY KILLING	24,052	0	0	3,210	0	0	27,262
TAKEN AND KEPT ALIVE	419	1,410	122	1	37	0	1,989
KILLED IN CAPTIVITY	49	0	0	52	0	0	101
TAKEN AND RELEASED	711,316	44	451	8,484	5	0	720,300
FOUND DEAD	4,924	1	0	235	0	0	5,160
STRANDED/EXCHANGED	118	272	3	25	35	0	453
IMPORTS	3,092	0	0	20	1	0	3,113
HARASS	105,921	300	5,858	46,515	0	0	158,594
ACTION TAKEN							
NO. OF APPLICATIONS FORWARDED TO MARINE MAMMAL COMMISSION	261	250	7	34	11	0	563
NO. OF APPLICATIONS REVIEWED BY MARINE MAMMAL COMMISSION	259	247	7	28	9	0	550
NO. OF APPLICATIONS WITHDRAWN	6	18	1	0	1	0	26
NO. OF APPLICATIONS REFERRED TO FISH AND WILDLIFE	1	0	0	0	0	0	1
NO. OF APPLICATIONS REFERRED TO STATES	14	1	0	0	0	0	15
NO. OF APPLICATIONS REFERRED TO REGIONS	5	14	2	0	0	0	21
NO. OF APPLICATIONS RESOLVED THROUGH AGREEMENT	1	2	0	0	0	0	3
NO. OF APPLICATIONS RETURNED DUE TO INSUFFICIENT OR INAPPROPRIATE SUBMITTAL	23	62	4	1	4	0	94
NO. OF APPLICATIONS DENIED	2	8	0	0	0	0	10
NO. OF APPLICATIONS APPROVED	255	233	7	22	9	0	526
NO. OF APPLICATIONS PENDING	0	0	0	14	6	0	20
NO. OF ANIMALS APPROVED(TOTAL)	836,346	1,067	5,913	47,122	33	0	890,481
OF THESE:							
TAKEN BY KILLING	22,535	0	0	3,210	0	0	25,745
TAKEN AND KEPT ALIVE	389	852	98	0	12	0	1,351
KILLED IN CAPTIVITY	49	0	0	52	0	0	101
TAKEN AND RELEASED	708,107	0	265	7,970	5	0	716,347
FOUND DEAD	4,187	0	0	235	0	0	4,422
STRANDED/EXCHANGED	103	209	0	0	9	0	321
IMPORTS	3,052	0	0	20	1	0	3,073
HARASS	97,924	0	5,550	35,635	0	0	139,109

NOTE: APPLICATIONS AND PERMITS INVOLVING HARASSMENT OF MARINE MAMMALS OR TAKING/IMPORTING OF MARINE MAMMALS FOUND DEAD USUALLY DO NOT SPECIFY NUMBERS, AND THEREFORE ARE NOT REFLECTED IN THE NUMBERS OF ANIMALS FOR THESE CATEGORIES.

TABLE 4
NUMBER OF CETACEANS REQUESTED IN SCIENTIFIC RESEARCH/PUBLIC DISPLAY PERMIT APPLICATIONS(1)

	REQUESTED AS OF March 31, 1985					REQUESTED April 1, 1985 THRU March 31, 1986					
COMMON NAME	TAKEN BY KILLING	TAKEN AND KEPT ALIVE	KILLED IN CAPTIVITY	TAGGED OR TAKEN AND RELEASED	FOUND DEAD/ STRND	TAKEN BY KILLING	TAKEN AND KEPT ALIVE	KILLED IN CAPTIVITY	TAGGED OR TAKEN AND RELEASED	FOUND DEAD/ STRND	CUMMULATIVE TOTAL REQUESTED
ATLANTIC SPOTTED DOLPHIN	------	10	------	-------	------	------	------	------	-------	------	10
ATLANTIC WHITE-SIDED DOLPHIN	------	6	------	15	250	------	------	------	-------	------	271
BAIRD'S BEAKED WHALE	------	------	------	25	6	------	------	------	-------	------	31
BLACK RIGHT WHALE, NORTHERN RIGHT	------	------	------	10	------	------	------	------	-------	------	10
BLUE WHALE	------	------	------	75	------	------	------	------	-------	------	75
BOTTLENOSE DOLPHINS	70	785	------	51,379	35	------	37	------	10	4	52,320
BOWHEAD WHALE	------	------	------	225	190	------	------	------	240	60	715
BRYDE'S WHALE	------	------	------	420	1	------	------	------	-------	------	421
COMMERSON'S DOLPHIN	------	38	------	-------	------	------	------	------	-------	------	38
COMMON DOLPHIN	155	26	------	75,742	259	------	------	------	-------	------	76,182
CUVIER'S BEAKED WHALE	------	2	------	-------	------	------	------	------	-------	------	2
DALL'S PORPOISE	960	4	------	910	18	------	------	------	-------	------	1,892
DUSKY DOLPHIN	------	------	------	76	------	------	------	------	-------	------	76
DWARF SPERM WHALE	------	------	------	-------	3	------	------	------	-------	------	3
FALSE KILLER WHALE	------	23	------	6	------	------	------	------	-------	------	29
FIN WHALE, FINBACK	------	------	------	415	------	------	------	------	-------	------	415
FINLESS PORPOISE	------	6	------	-------	------	------	------	------	-------	------	6
FRASER'S (SARAWAK) DOLPHIN	70	------	------	1,050	------	------	------	------	-------	------	1,120
GINKGO-TOOTHED BEAKED WHALE	------	------	------	-------	3	------	------	------	-------	------	3
GRAY WHALE	------	------	------	362	101	------	------	------	-------	15	478
HARBOR PORPOISE	------	12	------	203	1,389	------	------	------	-------	------	1,604
HUBBS' BEAKED WHALE	------	------	------	-------	6	------	------	------	-------	------	6
HUMPBACK WHALE	------	------	------	895	------	------	------	------	90	------	985
KILLER WHALE	------	54	------	317	23	------	------	------	45	------	439
LONG-FINNED PILOT WHALE	------	2	------	-------	280	------	------	------	-------	------	282
MELON-HEADED WHALE, ELECTRA	45	4	------	300	------	------	------	------	-------	------	349
MINKE WHALE	------	------	------	890	3	------	------	------	-------	------	893
NARWHAL	------	4	------	-------	------	------	------	------	-------	------	4
NORTHERN RIGHT WHALE DOLPHIN	------	2	------	130	18	------	------	------	-------	------	150
PACIFIC WHITE-SIDED DOLPHIN	------	58	------	527	48	------	------	------	44	------	677
PILOT WHALES UNSPECIFIED	------	12	------	15	------	------	------	------	-------	------	27
PYGMY KILLER WHALE	45	8	------	300	------	------	------	------	-------	------	353
PYGMY SPERM WHALE	------	------	------	15	6	------	------	------	-------	------	21
RISSO'S DOLPHIN, GRAMPUS	70	12	------	1,105	15	------	------	------	-------	------	1,202
ROUGH-TOOTHED DOLPHIN	70	9	------	5,050	------	------	------	------	-------	------	5,129
SEI WHALE	------	------	------	470	------	------	------	------	-------	------	470
SHORT-FINNED PILOT WHALE	70	41	------	135	33	------	------	------	-------	------	279
SOUTHERN RIGHT WHALE	------	------	------	10	------	------	------	------	-------	------	10
SPERM WHALE	------	------	------	1,055	------	------	------	------	-------	------	1,055
SPINNER DOLPHIN	2,929	40	------	103,967	------	------	------	------	-------	------	106,936
SPOTTED DOLPHIN	4,925	16	------	157,793	------	------	------	------	-------	------	162,734
STENELLINE DOLPHINS	------	------	------	100	3	------	------	------	-------	------	103
STRIPED DOLPHIN, STREAKER	100	------	------	50,065	------	------	------	------	-------	------	50,165
UNSPECIFIED CETACEANS	370	43	------	1,241	------	------	------	------	10	------	1,664
VAQUITA, COCHITO	------	------	------	-------	2	------	------	------	-------	------	2
WHITE WHALE, BELUKHA	90	43	------	870	80	------	------	------	-------	30	1,113
WHITE-BEAKED DOLPHIN	------	2	------	-------	250	------	------	------	-------	------	252
TOTALS:(2)	9,969	1,262	0	456,163(3)	3,022	0	37	0	439	109	471,001

(1) SPECIMEN IMPORTS AND HARASSMENT REQUESTS NOT INCLUDED IN THIS TABLE.
(2) WHERE PERMIT APPLICANTS REQUESTED A TOTAL NUMBER OF ANIMALS TO BE TAKEN WITHOUT SPECIFYING THE NUMBER TO BE TAKEN FROM A PARTICULAR SPECIES, THE NUMBER REQUESTED WAS LISTED UNDER UNSPECIFIED CETACEA.
(3) A SINGLE APPLICATION REQUESTED 432,850 CETACEANS AND ACCOUNTS FOR NEARLY THE TOTAL NUMBER IN THIS CATEGORY.

TABLE 5
NUMBER OF PINNIPEDS REQUESTED IN SCIENTIFIC RESEARCH/PUBLIC DISPLAY PERMIT APPLICATIONS(1)

	REQUESTED AS OF March 31, 1985					REQUESTED April 1, 1985 THRU March 31, 1986					
COMMON NAME	TAKEN BY KILLING	TAKEN AND KEPT ALIVE	KILLED IN CAPTIVITY	TAGGED OR TAKEN AND RELEASED	FOUND DEAD/ STRND	TAKEN BY KILLING	TAKEN AND KEPT ALIVE	KILLED IN CAPTIVITY	TAGGED OR TAKEN AND RELEASED	FOUND DEAD/ STRND	CUMMULATIVE TOTAL REQUESTED
ARCTOCEPHALINE FUR SEALS	2	------	------	80	------	------	------	------	-------	------	82
BAIKAL SEAL	------	8	------	-------	------	------	------	------	-------	------	8
BEARDED SEAL	1,180	8	------	400	70	------	------	------	30	30	1,718
CALIFORNIA SEA LION	534	972	4	28,082	650	------	------	------	-------	36	30,278
CASPIAN SEAL	------	2	------	-------	------	------	------	------	-------	------	2
CRABEATER SEAL	3,288	------	------	9,145	------	3,085	------	------	-------	------	15,518
GRAY SEAL	------	40	------	-------	251	------	------	------	-------	------	291
HARBOR SEALS	7,789	139	------	99,072	730	------	------	50	465	16	108,261
HARP SEAL, GREENLAND SEAL	------	40	------	-------	------	------	------	------	-------	------	40
HAWAIIAN MONK SEAL	16	5	------	4,389	------	------	1	------	475	------	4,886
KERGUELEN FUR SEAL	151	------	------	1,070	------	------	------	------	3,000	------	4,221
LARGHA SEAL, SPOTTED SEAL	1,320	------	------	1,100	------	------	------	------	-------	------	2,420
LEOPARD SEAL	688	8	------	3,220	------	80	------	------	1,000	------	4,996
NORTHERN ELEPHANT SEAL	154	18	------	63,698	307	------	------	------	-------	4	64,181
NORTHERN FUR SEAL	------	35	------	9	8	------	------	------	5	------	57
NORTHERN SEA LION, STELLER SEA LION	16,395	4	------	28,189	191	------	------	------	-------	------	44,779
RIBBON SEAL	955	2	------	400	------	------	------	------	-------	------	1,357
RINGED SEAL	1,780	12	------	707	125	------	------	2	60	100	2,786
ROSS SEAL	283	6	------	1,205	------	------	------	------	500	------	1,994
SOUTH AFRICAN FUR SEAL	------	6	------	10	------	------	------	------	-------	------	16
SOUTH AMERICAN SEA LION	------	14	------	-------	------	------	------	------	-------	------	14
SOUTHERN ELEPHANT SEAL	153	------	------	580	------	------	------	------	1,500	------	2,233
UNSPECIFIED MARINE MAMMALS	------	------	------	-------	50	------	------	------	-------	------	50
UNSPECIFIED PINNIPEDS	13,600	------	12	100	------	------	------	------	-------	------	13,712
WALRUS	600	------	------	-------	------	------	------	------	-------	------	600
WEDDELL SEAL	609	25	37	14,340	------	45	------	------	1,015	------	16,071
WEST INDIAN MANATEE	------	1	------	-------	------	------	------	------	-------	------	1
TOTALS:(2)	49,497	1,345	53	255,796	2,382	3,210	1	52	8,050	186	320,572

(1) SPECIMEN IMPORTS AND HARASSMENT REQUESTS NOT INCLUDED IN THIS TABLE.
(2) WHERE PERMIT APPLICANTS REQUESTED A TOTAL NUMBER OF ANIMALS TO BE TAKEN WITHOUT SPECIFYING THE NUMBER TO BE TAKEN FROM A PARTICULAR SPECIES, THE NUMBER REQUESTED WAS LISTED UNDER UNSPECIFIED PINNIPEDS OR UNSPECIFIED MARINE MAMMALS, IF CETACEANS ALSO WERE INVOLVED.

TABLE 6
NUMBER OF CETACEANS AUTHORIZED IN SCIENTIFIC RESEARCH/PUBLIC DISPLAY PERMIT APPLICATIONS(1)

COMMON NAME	AUTHORIZED AS OF March 31, 1985					AUTHORIZED April 1, 1985 THRU March 31, 1986					CUMMULATIVE TOTAL AUTHORIZED
	TAKEN BY KILLING	TAKEN AND KEPT ALIVE	KILLED IN CAPTIVITY	TAGGED OR TAKEN AND RELEASED	FOUND DEAD/ STRND	TAKEN BY KILLING	TAKEN AND KEPT ALIVE	KILLED IN CAPTIVITY	TAGGED OR TAKEN AND RELEASED	FOUND DEAD/ STRND	
ATLANTIC WHITE-SIDED DOLPHIN	------	6	------	5	250	------	------	------	-------	------	261
BLACK RIGHT WHALE, NORTHERN RIGHT	------	------	------	10	------	------	------	------	-------	------	10
BLUE WHALE	------	------	------	40	------	------	------	------	-------	------	40
BOTTLENOSE DOLPHINS	70	537	------	51,369	21	------	12	------	10	------	52,019
BOWHEAD WHALE	------	------	------	225	190	------	------	------	40	60	515
BRYDE'S WHALE	------	------	------	410	------	------	------	------	-------	------	410
COMMERSON'S DOLPHIN	------	12	------	-------	------	------	------	------	-------	------	12
COMMON DOLPHIN	155	18	------	75,727	250	------	------	------	-------	------	76,150
DALL'S PORPOISE	960	------	------	910	------	------	------	------	-------	------	1,870
DUSKY DOLPHIN	------	------	------	76	------	------	------	------	-------	------	76
FALSE KILLER WHALE	------	20	------	6	------	------	------	------	-------	------	26
FIN WHALE, FINBACK	------	------	------	370	------	------	------	------	-------	------	370
FRASER'S (SARAWAK) DOLPHIN	70	------	------	1,050	------	------	------	------	-------	------	1,120
GRAY WHALE	------	------	------	362	100	------	------	------	-------	15	477
HARBOR PORPOISE	------	6	------	105	1,251	------	------	------	-------	------	1,362
HUMPBACK WHALE	------	------	------	785	------	------	------	------	-------	------	785
KILLER WHALE	------	24	------	175	------	------	------	------	-------	------	199
LONG-FINNED PILOT WHALE	------	2	------	-------	280	------	------	------	-------	------	282
MELON-HEADED WHALE, ELECTRA	45	4	------	300	------	------	------	------	-------	------	349
MINKE WHALE	------	------	------	860	------	------	------	------	-------	------	860
NORTHERN RIGHT WHALE DOLPHIN	------	------	------	130	------	------	------	------	-------	------	130
PACIFIC WHITE-SIDED DOLPHIN	------	29	------	527	------	------	------	------	-------	------	556
PILOT WHALES UNSPECIFIED	------	8	------	-------	------	------	------	------	-------	------	8
PYGMY KILLER WHALE	45	4	------	300	------	------	------	------	-------	------	349
RISSO'S DOLPHIN, GRAMPUS	70	8	------	1,105	------	------	------	------	-------	------	1,183
ROUGH-TOOTHED DOLPHIN	70	9	------	5,050	------	------	------	------	-------	------	5,129
SEI WHALE	------	------	------	440	------	------	------	------	-------	------	440
SHORT-FINNED PILOT WHALE	70	31	------	135	------	------	------	------	-------	------	236
SPERM WHALE	------	------	------	860	------	------	------	------	-------	------	860
SPINNER DOLPHIN	2,929	21	------	103,967	------	------	------	------	-------	------	106,917
SPOTTED DOLPHIN	4,925	10	------	157,793	------	------	------	------	-------	------	162,728
STENELLINE DOLPHINS	------	------	------	100	------	------	------	------	-------	------	100
STRIPED DOLPHIN, STREAKER	100	------	------	50,050	------	------	------	------	-------	------	50,150
UNSPECIFIED CETACEANS	340	43	------	914	------	------	------	------	10	------	1,307
VAQUITA, COCHITO	------	------	------	-------	2	------	------	------	-------	------	2
WHITE WHALE, BELUKHA	25	32	------	870	80	------	------	------	-------	30	1,037
WHITE-BEAKED DOLPHIN	------	2	------	-------	250	------	------	------	-------	------	252
TOTALS:(2)	9,874	826	0	455,026(3)	2,674	0	12	0	60	105	468,577

(1) SPECIMEN IMPORTS AND HARASSMENT ACTIVITIES NOT INCLUDED IN THIS TABLE.
(2) WHERE A PERMIT SPECIFIED THE TOTAL NUMBER OF ANIMALS TO BE TAKEN WITHOUT SPECIFYING THE NUMBER TO BE TAKEN FROM A PARTICULAR SPECIES, THE NUMBER AUTHORIZED WAS LISTED UNDER UNSPECIFIED CETACEA.
(3) A SINGLE PERMIT AUTHORIZED 432,850 CETACEANS AND ACCOUNTS FOR NEARLY THE TOTAL NUMBER IN THIS CATEGORY.

TABLE 7
NUMBER OF PINNIPEDS AUTHORIZED IN SCIENTIFIC RESEARCH/PUBLIC DISPLAY PERMIT APPLICATIONS(1)

	A U T H O R I Z E D AS OF March 31, 1985					A U T H O R I Z E D April 1, 1985 THRU March 31, 1986					
COMMON NAME	TAKEN BY KILLING	TAKEN AND KEPT ALIVE	KILLED IN CAPTIVITY	TAGGED OR TAKEN AND RELEASED	FOUND DEAD/ STRND	TAKEN BY KILLING	TAKEN AND KEPT ALIVE	KILLED IN CAPTIVITY	TAGGED OR TAKEN AND RELEASED	FOUND DEAD/ STRND	CUMMULAT-IVE TOTAL AUTHORIZED
ARCTOCEPHALINE FUR SEALS	2	------	------	80	------	------	------	------	-------	------	82
BAIKAL SEAL	------	8	------	-------	------	------	------	------	-------	------	8
BEARDED SEAL	960	8	------	400	70	------	------	------	-------	30	1,468
CALIFORNIA SEA LION	534	357	2	27,052	488	------	------	------	-------	2	28,435
CASPIAN SEAL	------	2	------	-------	------	------	------	------	-------	------	2
CRABEATER SEAL	3,288	------	------	9,055	------	3,085	------	------	-------	------	15,428
GRAY SEAL	------	29	------	5	250	------	------	------	-------	------	284
HARBOR SEALS	1,662	100	------	98,802	568	------	------	50	435	3	101,620
HARP SEAL, GREENLAND SEAL	------	40	------	-------	------	------	------	------	-------	------	40
HAWAIIAN MONK SEAL	16	3	------	3,976	------	------	------	------	475	------	4,470
KERGUELEN FUR SEAL	151	------	------	980	------	------	------	------	3,000	------	4,131
LARGHA SEAL, SPOTTED SEAL	1,120	------	------	1,100	------	------	------	------	-------	------	2,220
LEOPARD SEAL	688	8	------	3,130	------	80	------	------	1,000	------	4,906
NORTHERN ELEPHANT SEAL	154	11	------	63,698	286	------	------	------	-------	4	64,153
NORTHERN FUR SEAL	------	20	------	-------	5	------	------	------	5	------	30
NORTHERN SEA LION, STELLER SEA LION	880	4	------	28,189	83	------	------	------	-------	------	29,156
RIBBON SEAL	855	2	------	400	------	------	------	------	-------	------	1,257
RINGED SEAL	1,500	12	------	704	125	------	------	2	-------	100	2,443
ROSS SEAL	283	6	------	1,115	------	------	------	------	500	------	1,904
SOUTH AFRICAN FUR SEAL	------	------	------	10	------	------	------	------	-------	------	10
SOUTH AMERICAN SEA LION	------	12	------	-------	------	------	------	------	-------	------	12
SOUTHERN ELEPHANT SEAL	153	------	------	490	------	------	------	------	1,500	------	2,143
UNSPECIFIED MARINE MAMMALS	15	------	------	15	------	------	------	------	-------	------	30
UNSPECIFIED PINNIPEDS	20	------	12	100	25	------	------	------	-------	------	157
WALRUS	200	------	------	-------	------	------	------	------	-------	------	200
WEDDELL SEAL	609	25	37	14,181	------	45	------	------	1,000	------	15,897
TOTALS:(2)	13,090	647	51	253,482	1,900	3,210	0	52	7,915	139	280,486

(1) SPECIMEN IMPORTS AND HARASSMENT ACTIVITIES NOT INCLUDED IN THIS TABLE.
(2) WHERE A PERMIT SPECIFIED THE TOTAL NUMBER OF ANIMALS TO BE TAKEN WITHOUT SPECIFYING THE NUMBER TO BE TAKEN FROM A PARTICULAR SPECIES, THE NUMBER AUTHORIZED WAS LISTED UNDER UNSPECIFIED PINNIPEDS OR UNSPECIFIED MARINE MAMMALS, IF CETACEANS WERE ALSO INVOLVED.

TABLE 8
SUMMARY OF PERMITS FOR PERMANENT REMOVAL FROM THE WILD - CETACEANS
AS OF March 31, 1986

SPECIES	******** PERMITS *********			********** NUMBER OF ANIMALS **********					
	ISSUED	EXPIRED	CURRENT	REQUESTED	AUTHORIZED	REPLACEMENTS	AUTHORIZATION EXPIRED	TAKEN (1)	TAKE REMAINING
ATLANTIC WHITE-SIDED DOLPHIN	1	1	0	6	6	0	6	0	0
BOTTLENOSE DOLPHINS	105	91	14	618	594	35	166	454	46
COMMERSON'S DOLPHIN	1	1	0	12	12	0	0	12	0
COMMON DOLPHIN	5	5	0	181	173	5	151	27	0
DALL'S PORPOISE	1	0	1	960	960	0	0	0	960
FALSE KILLER WHALE	6	5	1	20	20	0	7	7	6
FRASER'S (SARAWAK) DOLPHIN	2	2	0	70	70	0	70	0	0
HARBOR PORPOISE	1	1	0	6	6	0	6	0	0
KILLER WHALE	4	4	0	20	19	0	10	11	0
LONG-FINNED PILOT WHALE	1	1	0	2	2	0	2	0	0
MELON-HEADED WHALE, ELECTRA	3	3	0	49	49	0	47	2	0
PACIFIC WHITE-SIDED DOLPHIN	5	4	1	23	23	0	14	30	6
PYGMY KILLER WHALE	3	3	0	49	49	0	49	0	0
RISSO'S DOLPHIN, GRAMPUS	4	4	0	78	78	0	77	1	0
ROUGH-TOOTHED DOLPHIN	5	5	0	79	79	2	79	2	0
SHORT-FINNED PILOT WHALE	12	10	2	99	98	3	78	18	6
SPINNER DOLPHIN	4	4	0	2,956	2,950	3	2,779	179	0
SPOTTED DOLPHIN	3	3	0	4,935	4,935	0	4,676	271	0
STRIPED DOLPHIN, STREAKER	1	1	0	100	100	0	100	0	0
UNSPECIFIED CETACEANS	4	4	0	383	383	0	383	0	0
WHITE WHALE, BELUKHA	11	7	4	55	53	1	13	33	12
WHITE-BEAKED DOLPHIN	1	1	0	2	2	0	2	6	0
TOTAL NUMBER OF ANIMALS:				10,703	10,661	49	8,715	1,053	1,036

(1) ANIMALS TAKEN INCLUDE THOSE INADVERTENTLY KILLED DURING THE COURSE OF RESEARCH AUTHORIZING TYPES OF TAKE OTHER THAN PERMANENT REMOVAL.

TABLE 9
SUMMARY OF PERMITS FOR PERMANENT REMOVAL FROM THE WILD - PINNIPEDS
AS OF March 31, 1986

SPECIES	******** PERMITS ********			********** NUMBER OF ANIMALS **********					
	ISSUED	EXPIRED	CURRENT	REQUESTED	AUTHORIZED	REPLACEMENTS	AUTHORIZATION EXPIRED	TAKEN (1)	TAKE REMAINING
ARCTOCEPHALINE FUR SEALS	1	1	0	2	2	0	2	0	0
BAIKAL SEAL	2	2	0	8	8	0	4	4	0
BEARDED SEAL	8	6	2	930	930	0	453	185	300
CALIFORNIA SEA LION	73	72	1	869	855	13	142	320	450
CASPIAN SEAL	1	1	0	2	2	0	2	0	0
CRABEATER SEAL	8	4	4	6,373	6,373	0	460	333	5,580
GRAY SEAL	4	4	0	26	26	0	10	18	0
HARBOR SEALS	34	29	5	1,656	1,626	0	524	933	317
HARP SEAL, GREENLAND SEAL	1	1	0	40	40	0	20	20	0
HAWAIIAN MONK SEAL	1	0	1	19	19	0	0	3	18
KERGUELEN FUR SEAL	3	2	1	151	151	0	26	0	125
LARGHA SEAL, SPOTTED SEAL	6	4	2	1,020	1,020	0	328	116	595
LEOPARD SEAL	8	6	2	776	776	0	95	105	576
NORTHERN ELEPHANT SEAL	3	2	1	160	160	0	5	34	128
NORTHERN FUR SEAL	2	1	1	20	20	0	0	19	1
NORTHERN SEA LION, STELLER SEA LION	8	5	3	860	860	0	195	458	209
RIBBON SEAL	8	6	2	830	830	0	456	74	300
RINGED SEAL	11	8	3	1,420	1,420	0	578	343	500
ROSS SEAL	6	5	1	289	289	0	38	3	248
SOUTH AMERICAN SEA LION	3	3	0	12	12	0	4	8	0
SOUTHERN ELEPHANT SEAL	4	3	1	153	153	0	28	0	125
UNSPECIFIED MARINE MAMMALS	1	1	0	0	15	0	11	4	0
UNSPECIFIED PINNIPEDS	2	1	1	12	32	3	15	0	20
WALRUS	1	1	0	200	200	0	20	180	0
WEDDELL SEAL	10	7	3	716	716	0	111	60	545
TOTAL NUMBER OF ANIMALS:				16,544	16,535	16	3,527	3,220	10,037

(1) ANIMALS TAKEN INCLUDE THOSE INADVERTENTLY KILLED DURING THE COURSE OF RESEARCH AUTHORIZING TYPES OF TAKE OTHER THAN PERMANENT REMOVAL.

Table 10. INTERNATIONAL WHALING COMMISSION CATCH LIMITS: 1973-1984[1]

	SOUTHERN HEMISPHERE						NORTH PACIFIC							NORTH ATLANTIC				TOTAL		
	Fin	Minke	Sei	Sperm (M)	Sperm (F)	Bryde's	Fin	Minke	Sei & Bryde's	Sei	Bryde's	Sperm (M)	Sperm (F)	Fin	Minke	Sei	Sperm	TOTAL COMMERCIAL QUOTAS	Other[7]	TOTAL
1973/74 1973 Mtg	1,450[2]	5,000[2]	4,500[2]	8,000	5,000	0	550	.....	3,000	...	.....	6,000	4,000	...	.....	...	.....	37,500	8,173	45,673
1974/75 1974 Mtg	1,000[2]	7,000[2]	4,000[2]	8,000	5,000	0	300	.....	2,000	...	.....	6,000	4,000	...	.....	...	.....	37,300	5,173	42,473
1975/76 1975 Mtg	220[2]	6,810	2,230	5,870	4,870	0	0	.....	.....	0	1,363	5,200	3,100	365	2,550	...	.....	32,578	1,358	33,936
1976/77 1976 Mtg	0	8,900	1,863	3,894	897	0	0	541	.....	0	1,000	4,320	2,880	455	2,483	132	685	28,050		28,050
1977/78 1977 Mtg	0	5,690	771	4,538	1,370	0	0	400	.....	0	524	5,105	1,339	459	2,555	84	685	23,520		23,520
1978/79 1978 Mtg	0	6,221	0	3,820	1,055	0	0	400	.....	0	454	3,800	0	455	2,552	84	685	19,526		19,526
1979/80 1979 Mtg	0	8,102	0	...580...		264	0	1,361	.....	0	479	1,350	0	604	2,543	100	273	15,656		15,656
1980/81 1980 Mtg	0	7,072	0	...300...		866[3]	0	1,361	.....	0	529	890	0	701	2,554	100	130	14,523		14,523
1981/82 1981 Mtg	0	8,102	0	.....0...		866[3]	0	1,361	.....	0	526	0	0	561	2,554	100	0	14,070 (13,448)		14,070[8]
1982/83 1982 Mtg	0	7,072	0	.....0...		165[4]	0	1,361	.....	0	546	400[5]	0	293	2,434[6]	100	0	12,371		12,371
1983/84 1983 Mtg	0	6,655	0	.....0...		165[4]	0	421[9]	.....	0	536	-- [10]	0	287	1,226[11]	100	0	9,390		9,390
1984/85 1984 Mtg	.....	4,224	.....	.....0...		164[4]	....	320[9]	.....	...	357	.....	.....	281	1,177[11]	100	.....	6,623		6,623
1985/86 1985 Mtg	0	0	0	.....0...		0	0	0	0	0	0	0	0	0	0	0	0	0		0

1/ Catch limits are for the Southern Hemisphere pelagic season (November of the year of the meeting through April of the following year) and all coastal seasons of the year following the meeting. The Commission applies quotas to coastal seasons in the year whaling begins. Therefore, e.g., the column labelled "1980/81" reports quotas for the 1980/81 Southern Hemisphere pelagic season and the 1981 coastal seasons, all of which were established at the 1980 IWC meeting.

2/ Catch limit covering Antarctic catch only (south of 40° latitude).

3/ Of this figure, 622 whales could not be taken legally by member countries due to the factory ship moratorium and/or the Indian Ocean Sanctuary.

4/ Available to be taken from the Peruvian stock in a six-month period starting in November but counted for the season of the following year.

5/ The Commission also agreed to a 1982 coastal season catch limit of 450. Both catch limits include an allowable bycatch of up to 11.5% females.

6/ Although the Commission adopted no catch limit for the Northeastern stock, Norway limited catches to 1,690 as though the IWC had established this limit. The number has therefore been reflected in the totals.

7/ Whales taken by IWC members but not included in the catch limits.

8/ The figure in parentheses takes into account the reduction discussed in footnote 3 as well as catch limits totalling 151 North Atlantic fin whales for 1982 that were for stocks that had not been exploited since 1971.

9/ The catch limits for the Sea of Japan-Yellow Sea-East China Sea stock is zero but footnoted in the Schedule to read, "provided that the remainder from the previous block quota of 3,634 for the years 1980-1984, inclusive, may be taken in the years 1984 and 1985."

10/ The 1984 catch limit, if any, will be set at the 1984 Annual Meeting.

11/ Includes 300 whales from the West Greenland stock, some of which may be taken by aboriginal subsistence whaling operations in Greenland.

Table 11. POPULATION ESTIMATES: CETACEA

Name Order: Cetacea Suborder: Mysticeti Family: Eschrichtiidae	Estimated World Total	Comparison of Population Data[1]	Arctic Circum-polar	PACIFIC				ATLANTIC				SOUTHERN OCEAN			
				Asia	Alaska	North America	South America	North America	Europe	Africa	South America	New Zealand	Aus-tralia	Sub Ant-arctic	Ant-arctic
Gray whale (Eschrichtius robustus)	18,000/	best			18,000/										
Family: Balaenopteridae															
Minke whale (Balaenoptera acutorostrata)	315,800/ 331,800	incomplete		13,500	+[2]	+		+	44,000/ 60,000					258,300	
Sei whale (Balaenoptera borealis)	33,800/ 53,400	incomplete		<----22,000/37,000----->				+ 2,600	2,000/	+	+	+			9,800/ 11,800
Bryde's whale (Balaenoptera edeni)	30,200 55,500	incomplete		14,600/ 39,900		+	15,600	+		+	+	+	+		
Fin whale (Balaenoptera physalus)	105,200/ 121,900	incomplete		<----14,600/18,600----->				3,600/ 6,300	2,000/ 12,000				<----------85,000--------->		
Blue whale (Balaenoptera musculus)	11,700	incomplete		<---------1,600-------->				100	+	+	+		<----------10,000--------->		
Humpback whale (Megaptera novaeangliae)	9,500/ 10,000	incomplete		<---------1,200-------->				5,800	"few hundred"		+		<-------2,500/3,000------->		
Family: Balaenidae															
Right whale (Balaena glacialis)	3,100 3,200	incomplete		100/ 200					"few hundred"		+	+	<----------3,000--------->		
Bowhead whale (Balaena mysticetus)	4,417	complete	+		4,417										

Table 11 Continued. POPULTATION ESTIMATES: CETACEA

Name Order: Cetacea Suborder: Odontoceti Family: Delphinidae	Estimated World Total	Comparison of Population Data[1]	Arctic Circum-polar	PACIFIC				ATLANTIC				SOUTHERN OCEAN			
				Asia	Alaska	North America	South America	North America	Europe	Africa	South America	New Zealand	Aus-tralia	Sub Ant-arctic	Ant-arctic
Atlantic white-sided dolphin (Lagenorhynchus acutus)	no data	incomplete						24,000	+						
Pacific white-sided dolphin (Lagenorhynchus obliquidens)	no data	incomplete		+		30,000/ 50,000									
Northern right whale dolphin (Lissodelphis borealis)	no data	incomplete		+	+	+									
Southern right whale dolphin (Lissodelphis peronii)	no data	incomplete										+	+	+	
Risso's dolphin (Grampus griseus)	no data	incomplete		+	+	+	+	10,000	+	+	+				
Melon-headed whale (Peponocephala electra)	no data	incomplete				+	+								
Pygmy killer whale (Feresa attenuata)	no data	incomplete				+	+	+	+	+	+	+			
False killer whale (Pseudorca crassidens)	no data	incomplete		+		+	+	+	+	+	+	+	+		
Long-finned pilot whale (Globicephala melaena)	no data	incomplete						+	+						
Short-finned pilot whale (Globicephala macrorhynchus)	no data	incomplete				+	+	+	+	+	+				
Killer whale (Orcinus orca)	no data	incomplete	+	+	+	+	+	+	+	+	+	+	+	+	+
Rough-toothed dolphin (Steno bredanensis)	no data	incomplete				+	+	+		+	+				
Bottlenose dolphin (Tursiops truncatus)	no data	incomplete		+		+	+	14,000/ 23,000	+	+	+				
Spinner dolphin (Stenella longirostris)	no data	incomplete		+		900,000		+		+	+				
Spotted dolphin (Stenella attenuata)	no data	incomplete		+		2.2 Mil									
Atlantic spotted dolphin (Stenella plagiodon)	no data	incomplete						+	+	+	+				
Striped dolphin (Stenella coeruleoalba)	no data	incomplete		+		2.3 Mil		+							
Common dolphin (Delphinus delphis)	no data	incomplete		+		900,000		31,000	+	+	+	+	+	+	
Fraser's dolphin (Lagenorhynchus hosei)	no data	incomplete				+				+	+				

Table 11 Continued. POPULATION ESTIMATES: CETACEA

Name Order: Cetacea Suborder: Odontoceti	Estimated World Total	Comparison of Population Data	Arctic Circumpolar	PACIFIC				ATLANTIC				SOUTHERN OCEAN			
				Asia	Alaska	North America	South America	North America	Europe	Africa	South America	New Zealand	Australia	Sub Antarctic	Antarctic
Family: Phocoenidae															
Harbor porpoise (Phocoena phocoena)	no data	incomplete		+	+	+		18,000	+						
Dall's porpoise (Phocoenoides dalli)	920,000	complete		<------- 920,000 ------->											
Family: Monodontidae															
Beluga, belukha, white whale (Delphinapterus leucas)	62,000/ 88,000	complete	62,000/ 88,000	+	+	+		+	+						
Narwhal (Monodon monoceros)	30,000	incomplete	30,000	+	+	+		+	+						
Family: Physeteridae															
Sperm whale (Physeter macrocephalus)	982,200	complete		198,000	<----274,000---->			<----------99,500---------->				+		<-----410,700----->	
Pygmy sperm whale (Kogia breviceps)	no data	incomplete		+		+	+	+		+	+				
Dwarf sperm whale (Kogia simus)	no data	incomplete		+		+	+	+		+	+				
Family: Ziphiidae															
Baird's beaked whale (Berardius bairdii)	no data	incomplete		+	+	+						+	+	+	

[1] Best = the most comprehensive estimates throughout the range of the species.
Complete = good population estimates throughout the range of the species.
Incomplete = population estimates only in parts of the range of the species.

[2] Although a population occurs in this area, the numbers are either unknown or the data are not available.

Table 12. POPULATION ESTIMATES: PINNIPEDIA[1]

Name Order: Carnivora Suborder: Pinnipedia Family: Otariidae	Estimated World Total	Comparison of Population Data[2]	Arctic Circum-polar	PACIFIC				ATLANTIC				SOUTHERN OCEAN			
				Asia	Alaska	North America	South America	North America	Europe	Africa	South America	New Zealand	Aus-tralia	Sub Ant-arctic	Ant-arctic
California sea lion (Zalophus californianus)	177,000	complete				157,000	20,000								
Northern sea lion (Eumetopias jubatus)	120,000/ 130,000	complete		10,000/ 15,000	100,000/ 125,000	10,000									
South American sea lion (Otaria flavescens)	273,000	complete					228,000				45,000				
Australian sea lion (Neophoca cinerea)	2,000/ 3,000	complete											2,000/ 3,000		
Hooker's (New Zealand) sea lion (Phocarctos hookeri)	6,000											6,000			
Alaska or Northern fur seal (Callorhinus ursinus)	1,155,000	best		332,000	819,000	4,000									
Guadalupe fur seal (Arctocephalus townsendi)	1,600	complete				1,600									
Juan Fernandez fur seal (Arctocephalus philippii)	705/ 750	complete					705/ 750								
Galapagos fur seal (Arctocephalus galapagoensis)	1,000/ 5,000	incomplete					1,000/ 5,000								
South American fur seal (Arctocephalus australis)	346,000	incomplete					294,000				52,000				
Cape (South African) and Australian fur seals (Arctocephalus pusillus)	870,000	complete								850,000			20,000		

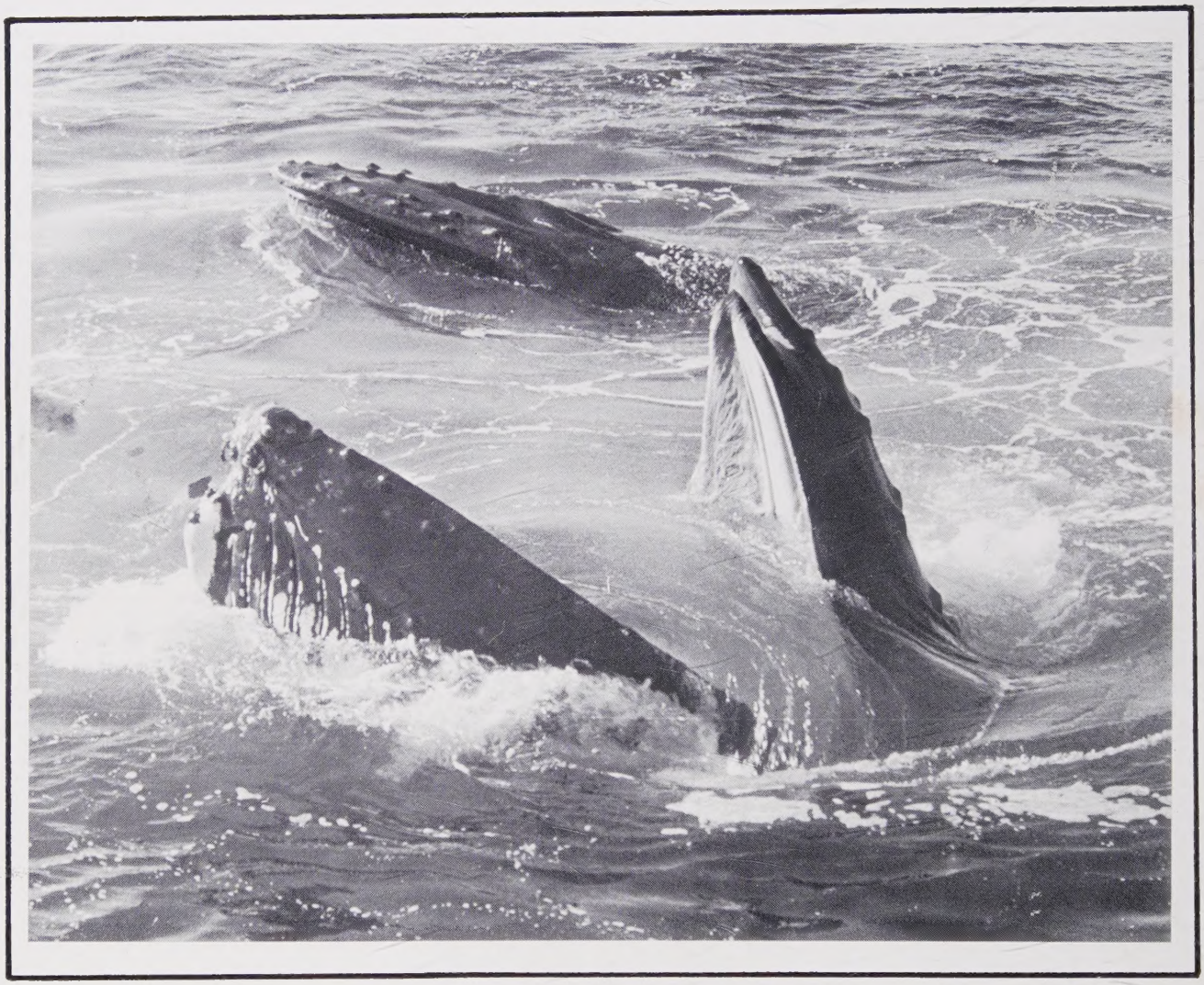
Table 12 Continued. POPULATION ESTIMATES: PINNIPEDIA[1]

Name Order: Carnivora Suborder: Pinnipedia Family: Otariidae Continued	Estimated World Total	Comparison of Population Data[2]	Arctic Circum-polar	PACIFIC				ATLANTIC				SOUTHERN OCEAN			
				Asia	Alaska	North America	South America	North America	Europe	Africa	South America	New Zealand	Aus-tralia	Sub Ant-arctic	Ant-arctic
New Zealand fur seal (Arctocephalus forsteri)	58,000	complete										25,000		33,000	
Antarctic (Kerguelen) fur seal (Arctocephalus gazella)	350,000	complete												350,000	
Subantarctic fur seal (Arctocephalus tropicalis)	122,000	incomplete								113,000				9,900	
Order: Carnivora Suborder: Pinnipedia Family: Phocidae															
Largha seal (Phoca largha)	335,000/ 450,000	incomplete		135,000/ 200,000	200,000/ 250,000										
Harbor (Common) seal (Phoca vitulina)	390,000/ 413,500	incomplete		10,000/ 15,000	260,000	42,000		30,000/ 45,000	48,000/ 51,500						
Ringed seal (Phoca [= pusa] hispida)	6/7 Million	best	6/7 Million												
Baikal seal (Phoca sibirica)	40,000/ 50,000	complete		40,000/ 50,000											
Caspian seal (Phoca caspica)	500,000 600,000	complete		500,000/ 600,000											
Harp Seal (Phoca groenlandica)	1,650,000/ 3,250,000	complete						1,050,000/ 2.1 mil	600,000/ 1,150,000						
Ribbon seal (Phoca [= histriophoca] fasciata)	200,000/ 250,000	complete	200,000/ 250,000												
Gray seal (Halichoerus grypus)	101,000/ 133,000	complete						24,000/ 55,000	77,000/ 78,500						

Table 12 Continued. POPULATION ESTIMATES: PINNIPEDIA[1]

Name Order: Carnivora Suborder: Pinnipedia Family: Phocidae Continued	Estimated World Total	Comparison of Population Data[2]	Arctic Circum-polar	PACIFIC				ATLANTIC				SOUTHERN OCEAN			
				Asia	Alaska	North America	South America	North America	Europe	Africa	South America	New Zealand	Aus-tralia	Sub Ant-arctic	Ant-arctic
Bearded seal (Erignathus barbatus)	exceeds 500,000	incomplete		exceeds 500,000											
Hooded seal (Cystophora cristata)	500,000/ 600,000	complete							500,000/ 600,000						
Mediterranean monk seal (Monachus monachus)	500	best							500						
Caribbean monk seal (Monachus tropicalis)	extinct or near extinct	best													
Hawaiian monk seal (Monachus schauinslandi)	500/ 1,500	complete				500/ 1,500									
Southern elephant seal (Mirounga leonina)	600,000	complete									300,000			300,000	
Northern elephant seal (Mirounga angustirostris)	100,000	best				100,000									
Crabeater seal (Lobodon carcinophaga)	15,000,000	best													15,000,000
Ross seal (Ommatophoca rossii)	220,000	complete													220,000
Leopard seal (Hydrurga leptonyx)	500,000	complete													500,000
Weddell seal (Leptonychotes weddelli)	750,000	complete													750,000

[1]All species of pinnipeds are included in the tables because of available data.
[2]Best = the most comprehensive estimates throughout the range of the species.
Complete = good population estimates throughout the range of the species.
Incomplete = population estimates only in parts of the range of the species.



NOAA
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE